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Characteristics of Farms with Sales of \$40,000 or More, 1987-89

Susan E. Bentley
Judith Z. Kalbacher
David E. Banker
Donn A. Reimund
Mitchell J. Morehart

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Abstract

This report is the prototype for a new annual report that provides time-series data on the major structural features of the farm sector as portrayed by the U.S. Department of Agriculture's Farm Costs and Returns Survey. Farm structural data are not available from any other national sources of data on an annual basis. We describe structural characteristics of U.S. commercial farms (farms with sales of \$40,000 or more) and how they have changed over the 1987-89 period. The variables presented were selected to provide a comprehensive overview of the organization, resource base, and financial situation of the Nation's commercial farm sector. These variables fall into three basic categories: farm structure, land base and use, and farm financial and economic well-being. As expected, the data indicated no major changes in the primary structural variables over the short period examined in this report. Changes in these variables generally occur over a relatively long period of time. However, the financial variables that measure the income and wealth status of farms are more sensitive to current economic and policy shifts. Consequently, these variables fluctuated more on a year-to-year basis.

Keywords: Farm Costs and Returns Survey, farm structure variables, land base and use variables, farm financial variables.

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Summary

This report is the prototype for a new annual report that provides time series data on the major structural features of the farm sector as portrayed by the U.S. Department of Agriculture's Farm Costs and Returns Survey (FCRS). Farm structural data are not available from any other national sources of data on an annual basis.

In this prototype report, we describe structural characteristics of U.S. commercial farms (farms with sales of \$40,000 or more) and how they have changed over the 1987-89 period. The variables presented were selected to provide a comprehensive overview of the organization, resource base, and financial situation of the Nation's commercial farm sector. These variables fall into three basic categories: farm structure, land base and use, and farm financial and economic well-being.

Farm structure variables measure the number and distribution of farms by several classifications, such as acreage, value of production, form of organization, type of farm, and operator characteristics. According to the FCRS data over the 1987-89 period:

- The total number of commercial farms declined while acreage remained fairly stable, resulting in a slight increase in average farm size over the period. However, these patterns vary by region.
- Farm size measures show that the majority of commercial farms are from 180 to 999 acres per farm and register sales of from \$40,000 to \$249,999 per farm.
- The individual owner type of business organization and the part ownership type of land tenure account for the largest proportions of commercial farms, acreage operated, and sales.
- Cash grain, beef-hog-sheep, and dairy operations are the most common production specialties for commercial operations, form the largest shares of commercial farmland, and produce the bulk of gross farm sales.
- Operator age, principal occupation, and educational level affect the managerial capability of operators and, subsequently, farm size and sales. The youngest operators, those with less than a high school education, and operators primarily employed in nonfarm occupations tend to have the smallest farms.

Land base and use variables measure the total amount of land operated, how land is used, and the arrangements under which land is held and operated. These data show that:

- Eighty-eight percent of commercial farms in the 1989 FCRS owned land, 75 percent rented land from others, and 9 percent rented land to others. About half of the land in commercial farms was rented.
- An overall increase in the amount of acreage owned per reporting farm, and an increase in both the total and average acreage rented are noted for the 1987-89 period.
- Major changes in land use on commercial farms include a drop in both the total acres in conservation tillage and the amount of cropland taken out of production. Reduced set-aside requirements resulted in substantial acreage being taken out of Government acreage reduction programs following the widespread drought of 1988.

Financial and economic well-being variables measure the income and wealth status of farms. According to these data:

- Average gross cash income was \$197,000 for commercial farms in the 1989 FCRS (up from \$171,000 in 1987), and increases in commodity receipts offset decreases in Federal

Government payments. Both net cash farm income and net farm income increased significantly for commercial farms over the period.

- Commercial farms in the FCRS show an increase from 1987 to 1989 in the total value of noncurrent assets, principally land, and a decrease in total noncurrent liabilities. The total value of their current assets decreased during this period, while current liabilities remained about the same. The overall ratio of debts to assets declined, from 23 to 17 percent, because of the decline in the ratio of noncurrent debts to noncurrent assets.

Taken together, these variables show how the Nation's farm sector is organized to use and control its resources and the financial and economic results of its activities. In a time-series context, these variables provide a basis for monitoring changes in the organization and well-being of the sector both at the aggregate and individual farm level. As expected, there were no major changes in the primary structural variables for commercial farms in the FCRS over the short period examined in this report. However, financial variables fluctuated more on a year-to-year basis.

Characteristics of Farms with Sales of \$40,000 or More, 1987-89

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Introduction

This report provides a prototype for an annual data series relating to farm structural variables. The data series will be based on data obtained from the annual Farm Costs and Returns Survey (FCRS) conducted by the U.S. Department of Agriculture's (USDA) Economic Research Service and National Agricultural Statistics Service (see Appendix B--The Farm Costs and Returns Survey for more information on the survey). Farm structural data are not available from any other national sources of data on an annual basis.

The term "farm structure" refers to: (1) how farms of different sizes and types organize natural, financial, and human resources to produce food and fiber, and (2) the distribution of income and wealth that results from that activity (Carlin, 1990). Farm structure is important to the efficiency of resource use and productivity of the natural resource base, affecting the quantity and quality of output available for domestic and foreign consumption. Structural issues affect the well-being of people involved in the farm sector, as well as those in closely linked industries. Measures of income and wealth within the sector are necessary to assess policy needs and to evaluate the effectiveness of farm policies and programs.

This report summarizes the major farm structural features on the Nation's commercial farms (farms with sales of \$40,000 or more) during 1987-89, the period immediately following the farm recession and the financial restructuring that accompanied it. The report includes tables with information about farms and land in farms, categorized by farm structural variables, land base and use variables, and variables related to the financial and economic well-being of farms.

Farm structural variables measure the number and distribution of farms by several classifications, such as acreage size, value of production, form of organization, type of farm, and operator characteristics. Land use and base variables measure the total amount of land operated, how land is used, and the arrangements under which land is held and operated. Over the short period covered by the data in this report, we do not expect major changes to occur in the primary structural and land base and use variables. Changes in these variables generally occur over a relatively long period of time. However, the financial variables that measure the income and wealth status of farms are more sensitive to current economic and policy shifts. These variables may fluctuate significantly over a short time period.

We define commercial farms as those that sold at least \$40,000 of agricultural products (including Government payments) in the reporting year.¹ This study was limited to commercial farms for two reasons: (1) the FCRS is known to undercount small farms, particularly those with sales of less than \$10,000; and (2) changes in the sample design during 1987-89 were most likely to influence the composition of smaller farms in the sample. (For an analysis of all farms in 1987, see Morehart, 1990.)

¹ Commercial farms are only a small share of all farms, but produce most of our food and fiber and control the majority of farmland. According to the 1987 Census of Agriculture, they make up about 28 percent of total farms, but account for 90 percent of all farm sales and about 70 percent of farmland.

Value of sales is used as the criterion for defining commercial farms because it is a common denominator that allows comparisons across various types of farms and regions of the country. However, interpretation of time-series data based on cross-section surveys must consider change in sales values attributed to nonstructural as well as structural factors. Structural change includes changes in the amount of resources that a farm controls, the way a farm is organized, and the types of commodities that the operation produces. Nonstructural change results from external and uncontrollable factors, such as year-to-year changes in commodity prices and crop yields. These changes may cause fluctuations in the farm sales distribution, shifting farms in or out of the commercial group as their sales values slip above or below the \$40,000 cutoff. Changes in survey design, sampling, and nonsampling error can also affect estimates.

Highlights

The appendix tables include information on commercial farms in the FCRS in 1987, 1988, and 1989; text tables include information for only 1989. Year-to-year variations in sample design and survey procedures influenced the conclusions reached about the structure of commercial farms based on these survey data. To provide a perspective on the reliability of the data, coefficients of variation (C.V.'s) for all survey items are included in the tables. T statistics for year-to-year changes are also included to indicate whether or not items differ from one year to another. See Appendix B for a detailed explanation of these statistics. All average values indicate the average per reporting farm; that is, the total value of the item divided by the number of farms that reported a positive or negative value for that item. Definitions for table items and classifications are presented in Appendix A.

Farm Numbers and Land in Farms

FCRS data indicate that the number of commercial farms decreased between 1987 and 1989, while the amount of land that commercial farms operated remained stable (app. tables 1 and 3). The 532,000 commercial farms in the 1989 FCRS operated 619 million acres, averaging 1,164 acres per farm (app. table 4). Since acreage remained fairly stable and the number of farms decreased, average farm size increased over the period.

Commercial farm numbers and acres operated declined in the Corn Belt, Northeast, and Delta States but increased in the Pacific. No other regional changes in commercial farm numbers or acreage were indicated over the 1987-89 period.

More than half of the surveys' commercial farms are concentrated in just three regions (fig. 1 and app. table 2). The Corn Belt has by far the largest share of commercial farms (25 percent in 1989), despite the decline in the number of farms in the region since 1987. The Northern Plains ranks second with about 16 percent, followed by the Lake States with 15 percent.

Because farm size varies from one region to another with different types of agricultural activities, the geographic distribution of farmland differs from the distribution of farms. The largest farms are generally located in the Plains and Mountain States. These regions had a much higher proportion of the Nation's commercial acreage than of farms. Farms in the Corn Belt and Lake States are usually smaller operations and, as a result, these regions accounted for a smaller proportion of acres operated than of farms.

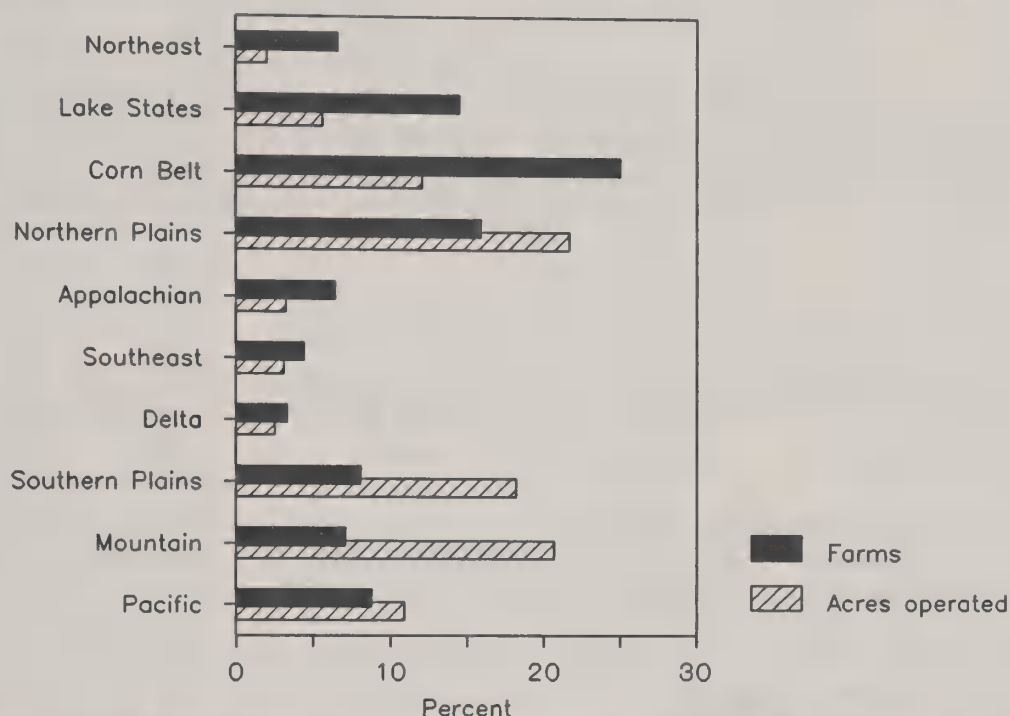
Type of Farm Organization

Individually operated farms accounted for most of the decline in commercial farms in the survey between 1987 and 1989, but remain by far the most common type of organization (fig. 2). Four out of every five commercial farms in 1989 were run by individuals. Partnerships and corporations make up a very small share of the farms but account for slightly more of both land operated and farm sales.

Figure 1

Commercial farms and farmland, by region, 1989¹

The distribution of farmland differed from the distribution of farms, as farm size varied regionally with different types of agricultural activities.

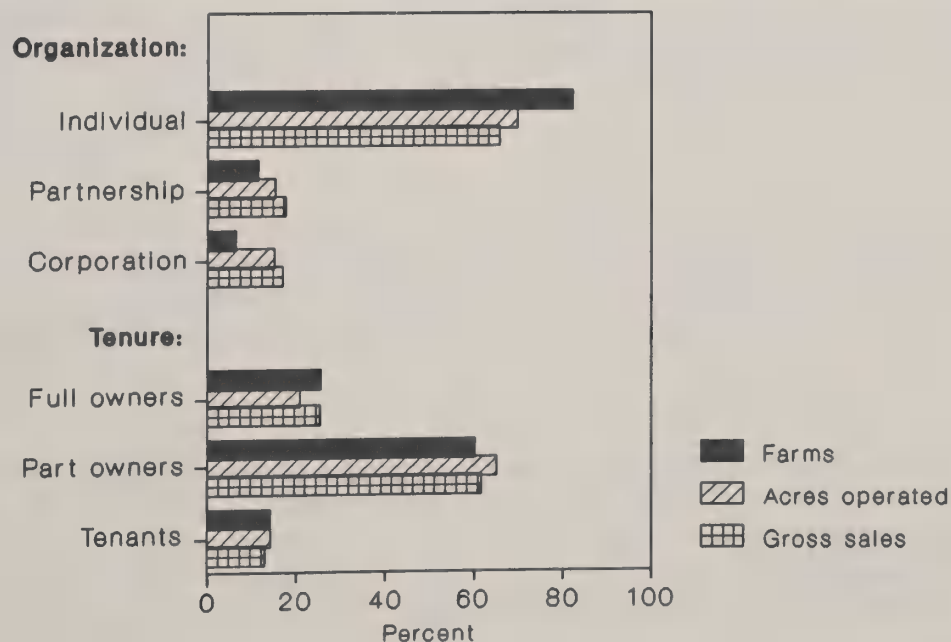


¹ Farms with sales of \$40,000 or more.
Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

Figure 2

Commercial farms, farmland, and gross farm sales, by type of farm organization and operator tenure, 1989¹

Farms operated by individuals and part owners controlled most of the farm acreage and sales.



¹ Farms with sales of \$40,000 or more.
Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

Data on gross value of agricultural sales indicate large differences by type of commercial farming organization (table 1). Individually owned operations, because of their large number, accounted for the largest share of sales. However, corporate farms had much higher average farm sales than either individual operations or partnerships. The average value of sales by partnerships was only 58 percent of the corporate value of \$499,000 in 1989; for individual operations, the average was 30 percent of the corporate level.

Average acreage was also highest for corporate farms at 2,742 acres in 1989, compared with 1,551 acres for partnerships, and 984 acres for individuals. The average acreage estimate for individual operations in 1989 reflects a significant increase in size from 819 acres in 1987, due to the combination of a sharp decline in the number of individually operated farms and an increase in the number of acres operated.

Operator Tenure

About half of the land in commercial farms in the 1989 FCRS was rented. The majority of the commercial operators surveyed (60 percent) were part owners, while 14 percent were tenants. Only 25 percent of commercial operators were full owners of their land (fig. 2).

Part owners operated the largest farms, averaging 1,253 acres in 1989, followed by tenants with 1,165 acres per farm and full owners with 950 acres per farm. Part owners, with two-thirds of the total in 1989, also account for the largest share of commercial acreage in the survey.

Gross farm sales were also concentrated on part-owner operations (table 1). However, this concentration is due more to the large number of farms in the group (fig. 2) than to a higher level of production, as indicated by the small variation in average sales by tenure group.

Table 1--Commercial farm sales, by type of farm organization and operator tenure, 1989¹

Averages for commercial farms in the FCRS show large differences in sales levels by type of organization, but little variation by tenure.

Item	Gross farm sales		Average sales per reporting farm	
	<i>Billion dollars</i>	<i>C.V.²</i>	<i>Dollars</i>	<i>C.V.</i>
Total	99.6	2.44	187,442	2.32
Organization:				
Individual	65.3	3.11	149,454	2.74
Partnership	17.4	5.28	286,813	5.83
Corporation	16.8	7.46	498,771	7.52
Tenure:				
Full owners	25.2	6.10	186,532	5.87
Part owners	61.4	2.95	191,454	2.75
Tenants	13.0	6.49	172,037	5.50

¹For farms with sales of \$40,000 or more.

²C.V. denotes coefficient of variation.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

With respect to change over the 1987-89 period, the number of farms operated by part owners remained stable, while the number of full-owner and tenant operations declined. There was no significant change in land operated by the various tenure groups or in the average size of their farms.

Landownership and Leasing

Eighty-eight percent of commercial farms in the 1989 FCRS owned land, 75 percent rented land from others, and 9 percent rented land to others. About half of the survey's 619 million acres of commercial farmland was rented or leased (app. table 5), with the majority of acres rented on a cash basis. The average farm size was 1,164 acres, including owned and rented land. The average amount of leased or rented acreage was 765 acres per reporting farm.

Only a few changes are indicated in landownership and leasing patterns of commercial farms over the 1987-89 period. The FCRS shows an overall increase in the average amount of acreage owned, from 604 acres to 729 acres for farms reporting owned land. There was also an increase in both the total amount of land rented to others (from 13 million acres in 1987 to 22 million acres in 1989) and the average acreage rented to others (from 261 acres to 457 acres).

Land Use and Management

The FCRS data indicate that the number of commercial farms using conservation tillage dropped from 163,000 in 1987 to 120,000 in 1989. The total amount of acreage under conservation tillage also fell (from 42 million acres to 35 million acres), but the average number of acres under conservation tillage for farms employing conservation tillage increased (from 257 acres to 293 acres over the period).

Fifty-seven percent of the commercial farm operators in the 1989 FCRS removed some land from production, mostly for Government agricultural programs. The average amount of land taken out of production for all reasons was 166 acres per reporting farm.

Over the 1987-89 period, the number of commercial farms with land taken out of production for all reasons fell by nearly a fifth, from 373,000 to 304,000. The amount of land taken out of production for all reasons dropped from 66 million acres to 50 million acres.

The number of commercial farms withdrawing land from production under Government programs also declined between 1987 and 1989, from 361,000 to 277,000. The amount of land withdrawn from production under Government programs fell by more than half between 1987 and 1989 (from about 42 million acres to 20 million acres). The average farm reporting in 1987 withheld 115 acres from production; this average fell to 71 acres in 1989.

Farm Size Measures

The two common measures of farm size are acres operated, a resource-based measure, and gross farm sales, an output-based measure. Gross value of sales in this report includes all sales of crops, livestock, poultry and products, and miscellaneous agricultural products, as well as Government agricultural payments and landlord's share of crops sold during the reporting year.

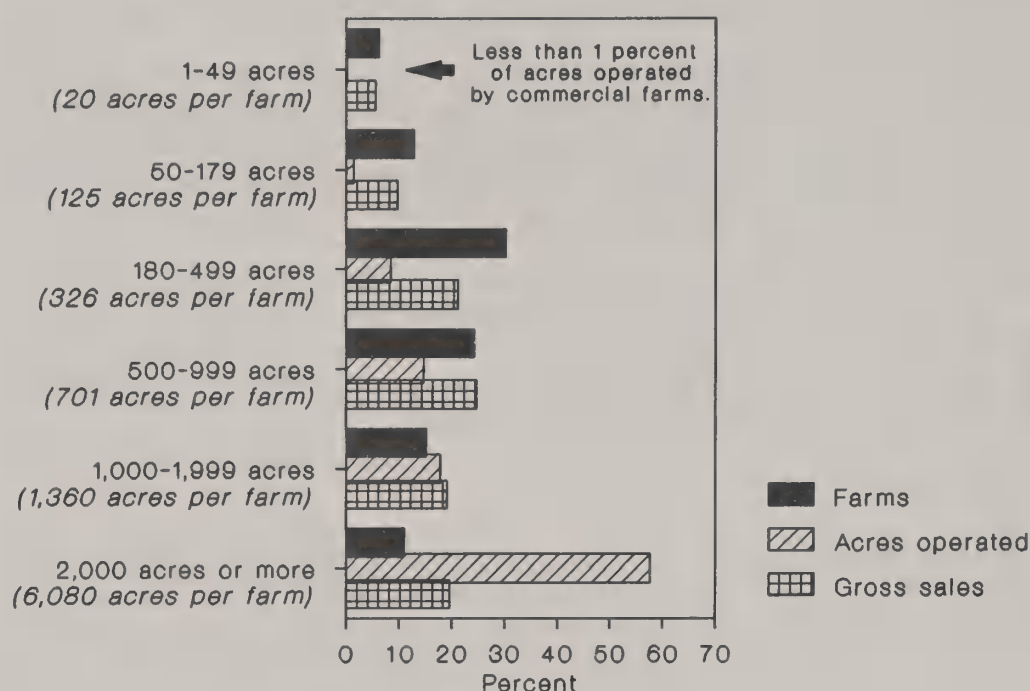
Acreage Class

FCRS data show a concentration of commercial farms in the midsize acreage classes between 1987 and 1989, with proportionately more of the remaining farms at the larger end of the size spectrum than in the smaller categories (fig. 3). According to the 1989 survey, farms in the 180-499 and 500-999 acreage classes made up slightly more than half of the commercial farm total, despite a decline since 1987 in the number of farms with 180-499 acres. However, farms in this acreage range operate less than 25 percent of the land.

Figure 3

Commercial farms, farmland, and gross farm sales, by acreage class, 1989¹

The majority of farms were midsized, ranging from 180-999 acres per farm.



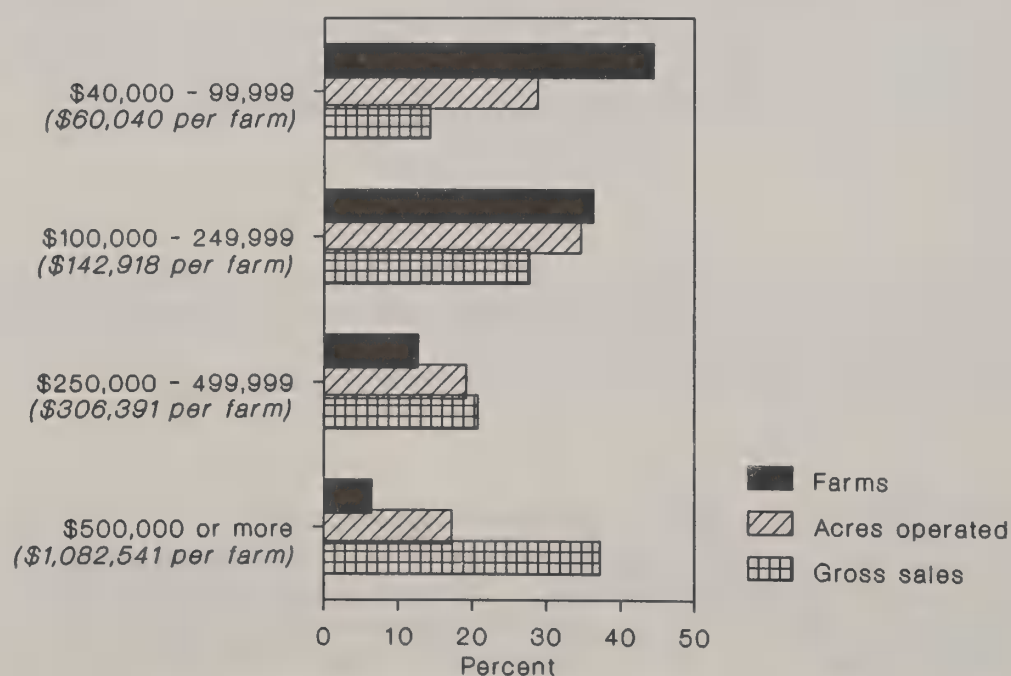
¹Farms with sales of \$40,000 or more.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

Figure 4

Commercial farms, farmland, and gross farm sales, by sales class, 1989¹

The majority of farms were in the smaller sales classes.



¹Farms with sales of \$40,000 or more.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

Only about 1 in every 10 commercial farms in the survey operated 2,000 or more acres in 1989, but they accounted for more than half of the land operated. These very large farms operated about 6,000 acres per farm. This class was the only acreage class with an increase in the amount of land operated during 1987-89. The amount of land operated decreased in the 180-499 acre class, which is consistent with the group's drop in farm numbers.

Gross farm sales by acreage class showed less concentration than farm numbers or acres operated, although farms in the midsize acreage classes generated slightly more sales than farms in other size classes. Mid-sized farms (180-999 acres) generated about 46 percent of all commercial farm sales in 1989. However, the larger acreage classes accounted for proportionately more farm sales than farm numbers, as reflected in their high average sales values in table 2.

Sales Class

The largest share of commercial farms and acreage in the 1989 FCRS are in the lowest sales classes (fig. 4). Both farm numbers and land in farms by sales class showed stability over the 1987-89 period.

A relatively small number of very large farms produce the largest share of commercial farm sales. Only 6 percent of the farms were large operations with sales of \$500,000 or more in 1989, but they generated 37 percent of gross farm sales.

Table 2--Commercial farm sales, by farm size measures, 1989¹

Averages indicate much higher sales from commercial farms in the largest size classes.

Item	Gross farm sales		Average sales per reporting farm	
	<i>Billion dollars</i>	<i>C.V.²</i>	<i>Dollars</i>	<i>C.V.</i>
Total	99.6	2.44	187,442	2.32
Acreage class:				
1-49 acres	5.6	10.58	169,363	11.61
50-99 acres	3.1	13.40	167,616	13.45
100-139 acres	3.1	14.41	151,656	12.53
140-179 acres	3.6	15.14	121,983	13.08
180-219 acres	2.6	12.32	133,346	8.61
220-259 acres	2.7	10.74	115,915	8.80
260-499 acres	15.8	5.80	133,673	4.81
500-999 acres	24.6	5.49	190,434	4.95
1,000-1,999 acres	19.0	6.41	234,657	5.86
2,000+ acres	19.5	5.94	332,685	5.58
Sales class:				
\$40,000-99,999	14.2	3.49	60,040	1.16
\$100,000-249,999	27.6	2.73	142,918	0.90
\$250,000-499,999	20.7	4.33	306,391	1.36
\$500,000+	37.2	5.84	1,082,541	4.41

¹For farms with sales of \$40,000 or more.

²C.V. denotes coefficient of variation.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

Average land operated by commercial farms ranged from 751 acres per farm in the lowest sales class to 3,109 acres for farms with gross receipts of \$500,000 or more. The average farm in the \$500,000 or more sales class reported farm sales of nearly \$1.1 million in 1989, compared with only \$60,000 for the average farm in the lowest sales class (table 2).

A substantial number of farms in the largest sales class specialize in enterprises that generate high sales volumes per acre operated (about \$350 per acre in 1989), such as cattle feedlots, poultry, vegetables, and fruits. Farms in the smaller commercial sales classes are more likely to specialize in enterprises requiring relatively large acreages per dollar of sales (generating only \$80 per acre), such as cash grains and range livestock.

Type of Farm

Cash grain, beef-hog-sheep, and dairy operations are the most common production specialties for commercial operations in the survey, accounting for about 80 percent of the total in 1989. These three farm types also operate the largest shares of commercial farmland, with cash grain and beef-hog-sheep operations alone accounting for 80 percent of total acreage.

Average number of acres operated varies considerably across production specialties. The average for commercial farms in 1989 ranged from a low of 98 acres for nursery and greenhouse operations to a high of 2,760 acres for other livestock farms. Other production specialties with comparatively high average acreage were beef-hog-sheep, cotton, and cash grain farms.

The three most common farm types also produce the bulk of gross farm sales (that is, total cash marketing receipts from the sale of agricultural products). Cash grain, beef-hog-sheep, and dairy farms generated 71 percent of commercial farm sales in 1989. However, average sales data indicate comparatively low sales levels from these farm types (table 3). Average sales were highest for farms specializing in nursery, cotton, and vegetable-fruit-nut production; but, because of the small number of farms in these specialties, in aggregate they accounted for only about 18 percent of commercial sales.

Table 3--Commercial farm sales by type of farm, 1989¹

Three farm types in the survey--cash grain, beef-hog-sheep, and dairy--produce the bulk of commercial farm sales, but averages indicate comparatively low levels of output from these farm types.

Item	Gross farm sales		Average sales per reporting farm	
	<i>Billion dollars</i>	<i>C.V.²</i>	<i>Dollars</i>	<i>C.V.</i>
Total	99.6	2.44	187,442	2.32
Cash grain	23.8	4.10	140,312	3.39
Tobacco	1.6	12.15	151,272	10.74
Cotton	4.8	15.12	325,921	9.96
Other field crops	5.8	13.67	245,834	12.99
Vegetable, fruit, or nut	8.8	8.89	317,323	7.80
Nursery	4.0	16.93	414,556	15.45
Beef, hog, or sheep	26.4	6.11	188,118	5.93
Poultry	2.0	22.39	123,734	22.89
Dairy	21.0	3.05	188,164	2.60
Other livestock	2.2	18.93	209,383	19.72

¹For farms with sales of \$40,000 or more.

²C.V. denotes coefficient of variation.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

The income data in table 4 and figure 5 show the importance of the major components of farm income (crop sales, livestock sales, Government payments, and other farm income) to commercial farms in the survey. For farms with sales of crop commodities in 1989, average crop sales ranged from about \$18,000 for dairy farms to \$412,000 for nursery operations. Livestock and poultry sales averaged from about \$24,000 for farms classified as other field crop operations to \$190,000 for other livestock operations. Average income from Government payments and other farm-related sources was generally lower than average income from commodity sales.

Overall, crop farms accounted for about 7 percent of total livestock sales in 1989, while 8 percent of crop sales were attributed to livestock production specialties. Government payments made a substantial contribution to gross cash income of cash grain (12 percent) and cotton (13.6 percent) farms. Other farm income contributed the most to poultry (27 percent) and other livestock (17.1 percent) operations.

Table 4--Average gross cash income for commercial farms, by major farm sources and type of farm, 1989¹

Averages indicate that most commercial farm types in the FCRS received more revenue from commodity sales than from Government payments and other sources of farm-related income.

Item	Crop sales		Livestock sales	
	<i>Dollars per reporting farm</i>	<i>C.V.²</i>	<i>Dollars per reporting farm</i>	<i>C.V.</i>
Cash grain	105,245	4.18	36,072	5.10
Tobacco	131,411	11.72	35,199	30.50
Cotton	278,162	10.96	28,511	19.36
Other field crops	229,483	13.78	23,519	13.88
Vegetable, fruit, or nut	308,854	7.93	27,392	23.12
Nursery	412,228	15.52	d	na
Beef, hog, or sheep	29,046	5.10	162,867	6.67
Poultry	d	na	131,519	24.07
Dairy	18,128	8.47	174,726	2.74
Other livestock	32,534	22.78	190,286	20.71
	Government payments		Other farm income	
	<i>Dollars per reporting farm</i>	<i>C.V.</i>	<i>Dollars per reporting farm</i>	<i>C.V.</i>
Cash grain	19,208	2.92	11,778	6.68
Tobacco	7,666	18.67	22,631	38.07
Cotton	48,616	7.05	33,162	21.44
Other field crops	16,685	14.94	32,258	22.18
Vegetable, fruit, or nut	24,909	16.48	45,788	17.00
Nursery	d	na	d	na
Beef, hog, or sheep	12,440	5.43	21,385	36.12
Poultry	d	na	65,098	8.18
Dairy	9,909	4.04	4,584	7.69
Other livestock	d	na	72,864	5.70

¹For farms with sales of \$40,000 or more.

²C.V. denotes coefficient of variation.

d = Data insufficient for disclosure.

na = Not applicable.

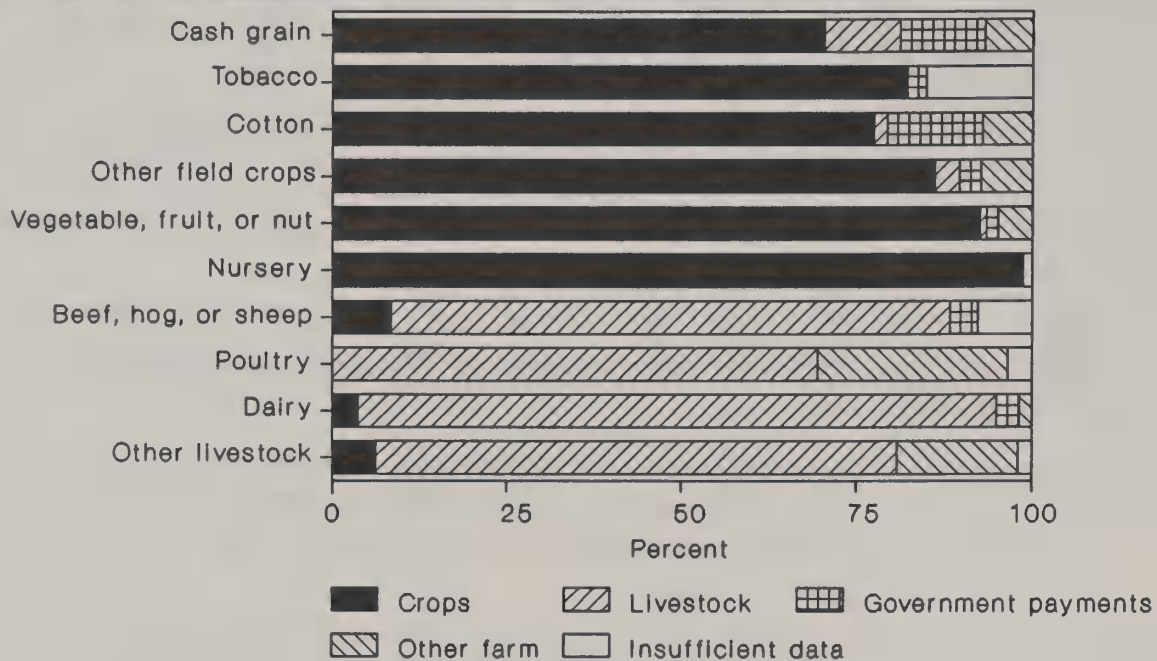
Note: The reliability of estimates with C.V.'s greater than 25 percent is questionable.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

Figure 5

Gross cash income for commercial farms, by major farm sources and type of farm, 1989¹

The importance of the major components of farm income varied, but commodity sales made up the largest component for all farm types.



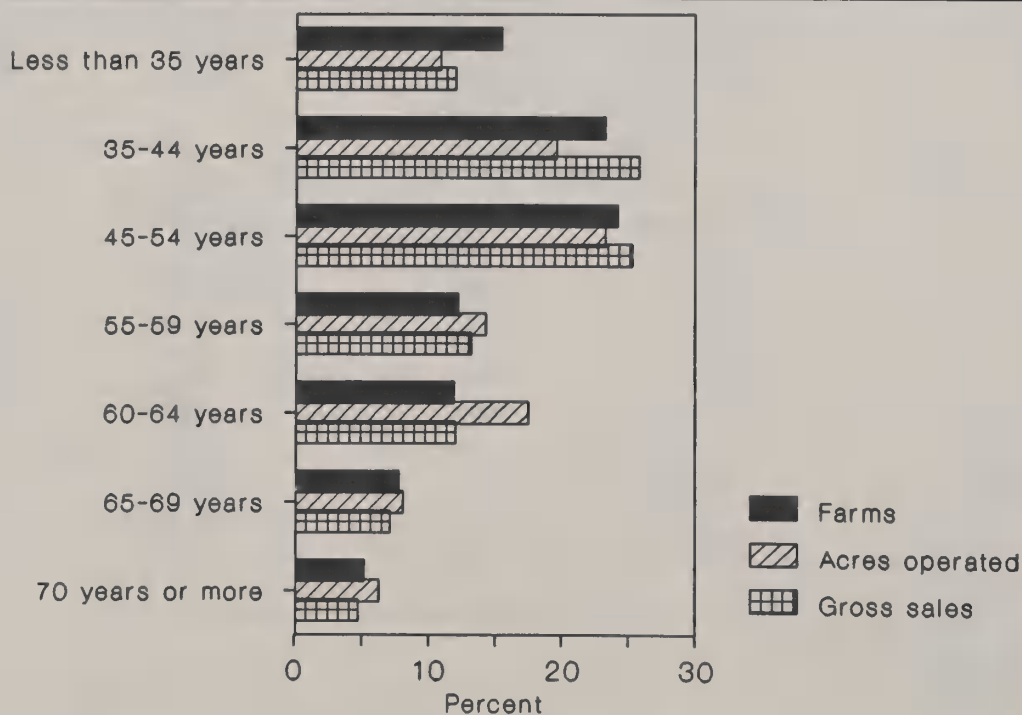
¹ Farms with sales of \$40,000 or more.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

Figure 6

Commercial farms, farmland, and gross farm sales, by age of operator, 1989¹

Operators aged 35-44 and 45-54 years accounted for the largest shares of commercial farms, acres operated, and sales.



¹ Farms with sales of \$40,000 or more.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

Selected Characteristics of Farm Operators

Farm operator age, principal occupation, and education have implications for the managerial capability of operators and, subsequently, for farm size and volume of output. FCRS data on the characteristics of commercial farm operators show variation among farms, and some general patterns are noted.

Age

The average age of commercial farm operators was 49.2 years in 1989, up slightly from 48.4 years in 1987.² About half of those surveyed in 1989 were in the age groups 35-44 years and 45-54 years (fig. 6). These age groups also accounted for the largest shares of commercial farmland (43 percent) and sales (51 percent). The tendency for older operators to continue farming beyond the traditional retirement age is reflected in the proportion of operators aged 65-69 years and 70 years or older, and in their share of acreage and sales (table 5).

Table 5--Commercial farm sales, by selected operator characteristics, 1989¹

FCRS data on commercial farm sales indicate differences in total and average sales by certain operator characteristics.

Item	Gross farm sales		Average per reporting farm	
	<i>Billion dollars</i>	<i>C.V.²</i>	<i>Dollars</i>	<i>C.V.</i>
Total	99.6	2.44	187,442	2.32
Age:				
Younger than 35 years	11.9	5.88	144,728	5.15
35-44 years	25.7	4.78	207,976	3.92
45-54 years	25.2	5.36	196,103	5.13
55-59 years	13.1	8.17	203,022	7.55
60-64 years	11.9	8.03	188,262	7.75
65-69 years	7.1	9.22	170,340	8.70
70 years or older	4.7	14.58	169,792	12.87
Principal occupation:				
Farm or ranch work	91.2	2.60	189,851	2.46
Hired farm manager	3.7	13.59	428,979	13.32
Other occupation	4.8	9.12	111,732	7.44
Education:				
Less than high school	13.2	5.44	149,783	4.69
High school	39.0	3.96	167,141	3.58
Some college	24.0	5.27	198,353	4.62
College	19.8	7.21	280,302	7.41
Graduate school	3.7	9.72	195,165	8.16

¹For farms with sales of \$40,000 or more.

²C.V. denotes coefficient of variation.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

² The estimated average age of commercial farm operators and its C.V. for 1987 were 48.4 years and 0.51; for 1988, 49 years and 0.54; and for 1989, 49.2 years and 0.57. The average changed significantly over the 2-year period (T statistic = 2.00), but year-to-year changes were not statistically significant.

Farm size measures indicate that the youngest commercial farm operators tend to have the smallest farms. Average number of acres operated was lowest for farmers younger than age 35, at 816 acres in 1989. The youngest group also had the lowest average sales at about \$145,000 per farm (table 5). For the age groups 35 years and older, average acreage shows no distinct pattern with increasing age, but average sales generally increase until age 45, remain fairly stable until age 60, and then begin to fall as operators approach retirement age.

Principal Occupation

Most operators of commercial farms in the survey (90 percent in 1989) reported farm or ranch work as their primary occupation (defined as the occupation at which the operator spent 50 percent or more of his or her work time). Operators primarily employed in farm or ranch work also operated most of the commercial farm acreage (85 percent) and produced most of the sales (91 percent).

Average sales in 1989 were highest for commercial farms operated by hired managers and lowest for farms with operators primarily employed in nonfarm occupations (table 5). Hired farm managers ran only 2 percent of the farms, but their operations accounted for about 4 percent of the total gross value of agricultural sales from commercial farms. Sales from farms operated by individuals with principal occupations other than farming (8 percent of the farms) amounted to 5 percent of all commercial farm sales.

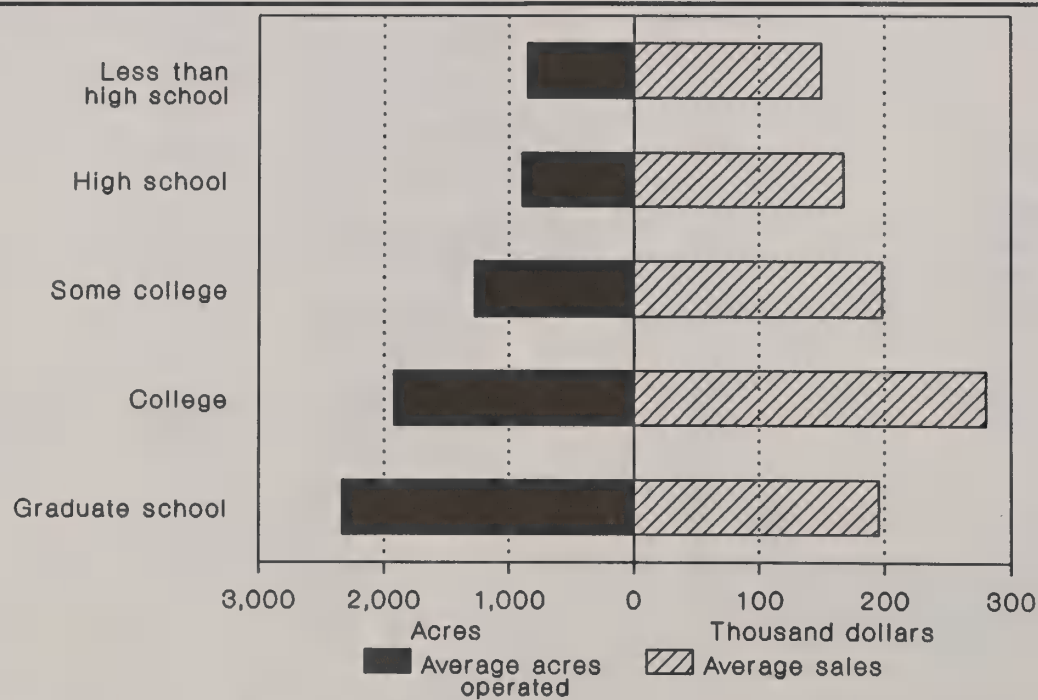
Education

About 44 percent of the commercial farm operators in the 1989 survey reported that they had completed high school but had not gone on to college. An additional 23 percent had some college training, and 17 percent completed college. The survey indicates a slight decline from 1987 to 1989 in the number of high school graduates with no college training.

Figure 7

Average commercial farmland and gross farm sales, by educational level of farm operator, 1989¹

Farm size increased with educational level of operator.



¹ Farms with sales of \$40,000 or more.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

The educational levels of commercial farm operators in the survey are associated with farm size. Farm size measured by acreage or sales generally increases with level of education, with the exception of average sales falling off at the graduate school level (fig. 7). Operators with a high school education only, however, operated about 34 percent of commercial acreage and generated 39 percent of farm sales in 1989 (table 5).

Farm Business Income Statement

In the 1989 FCRS, commercial farm operations reported almost \$104 billion in gross cash farm income (table 6). Livestock sales represented 46 percent, crop sales 42 percent, Government payments 5.7 percent, and other farm-related income 6.3 percent. Average gross cash income was \$197,000 in 1989 (up from \$171,000 in 1987), when increases in commodity receipts offset decreases in Government payments (app. table 6).

Average cash expenses increased 13.8 percent, with the increase attributable to increasing variable expenditures. Total cash expenses also increased, from \$73 billion in 1987 to \$79 billion in 1989. The largest increases in total expenditures were for fertilizer and chemicals, repairs and maintenance, and machine-hire and custom work.

Both net cash farm income and net farm income increased significantly from 1987 to 1989. Net cash farm income is calculated as the gross cash income less cash expenses. Net farm income adjusts the net cash farm income by subtracting depreciation and noncash labor expenses and adding the value of inventory change and nonmoney income. In 1989, average net cash farm income was \$47,009 and net farm income was \$43,485, compared with \$38,812 and \$33,857 in 1987.

Total depreciation expenses and noncash labor benefits reported remained about the same, at \$8.8 million and \$14 million in 1989. While the proportion of commercial farms reporting depreciation expenses increased from 89.8 to 94 percent from 1987 to 1989, the average depreciation per reporting farm remained around \$18,000.

Commercial Farm Balance Sheet

Commercial farm operations' assets and liabilities reported in the 1989 FCRS were about \$383 billion and \$66 billion, resulting in total equity (the difference between assets and debts) of about \$317 billion (fig. 8 and app. table 7). The ratio of total debt to total assets was 0.17, leaving commercial farm operations with an equity in their farm businesses equal to 83 percent of total asset value.

Land and buildings represented the majority of total assets (fig. 9). About 91 percent of commercial farm operations reported owning land and buildings in 1989, with an average value per reporting farm of \$524,000.

Almost all commercial farm operations reported owning some current assets (inventories, purchased inputs on hand, prepaid insurance, and other assets) and having some current liabilities (those maturing in a year or less, the current portion of term debt, accrued interest, and accounts payable). The total value of current assets decreased from 1987 to 1989, while current liabilities remained about the same. The information reported by commercial farm operations indicates that these farms owned about \$7 in current assets for each dollar of current liabilities in 1987, but by 1989, commercial farms owned only \$6 in current assets for each dollar in current liabilities.

The overall ratio of debts to assets declined during this period, however, from 23 to 17 percent, because of the corresponding decline in the ratio of noncurrent debts to noncurrent assets. The total value of noncurrent assets, principally land, increased, but total noncurrent liabilities decreased. In 1989, about 39 percent of commercial farm operations reported real estate liabilities, with an average debt of \$132,000.

Table 6--Commercial farm income statement, 1989¹

In the 1989 FCRS, commercial farm operations reported about \$104 billion in gross cash farm income. Average gross cash farm income in 1989 was \$197,000, up from \$171,000 in 1987.

Item	Percent of farms reporting	Total	Average per reporting farm
	Percent	1,000 dollars	Dollars
Gross cash income	99.6	103,638,334 +	197,210 +
Livestock sales	68.8	47,565,405	131,030 +
Crop sales (including net Commodity Credit Corporation loans)	72.6 -	43,633,465 +	113,897 +
Government payments	68.6	5,899,915 -	16,297 -
Other farm-related income	73.6 -	6,539,549	16,853
Less:			
Cash expenses	100.0	78,840,192	149,462 +
Variable expenses	100.0	63,894,013 +	121,133 +
Livestock purchases	48.7	10,703,375	41,689
Feed	69.5	11,890,471	32,422
Veterinary services and supplies	67.3	1,244,168	3,503 +
Other livestock-related expenses	25.8 +	628,500	4,615
Seed and plants	87.0	3,166,905	6,899 +
Fertilizer and chemicals	89.5 -	9,263,198 +	19,610 +
Labor	74.7 +	9,744,957	24,724
Fuels and oils	99.2 +	3,529,795	6,743
Repairs and maintenance	98.8	5,560,199 +	10,670 +
Machine-hire and custom work	55.2 +	1,483,048 +	5,094 +
Utilities	97.0	2,567,007	5,015 +
Other variable expenses	99.2	4,112,391	7,856
Fixed expenses	99.6	14,946,179	28,447
Real estate and property taxes	88.9	1,747,686	3,727
Interest on real estate debt	78.6	6,590,653	15,900
Insurance premiums	97.3 +	2,066,401 +	4,025 +
Rent and lease payments	62.1 +	4,541,439	13,862
Equals: Net cash farm income	100.0	24,798,141 +	47,009 +
Less:			
Depreciation	94.0 +	8,789,260	17,730
Labor, noncash benefits	26.6 -	414,638	2,958
Plus:			
Value of inventory change	74.4	5,583,992	14,235
Nonmoney income	80.4	1,760,548 +	4,149 +
Equals: Net farm income	100.0	22,938,783 +	43,485 +

¹For farms with sales of \$40,000 or more.

+ Indicates a statistically significant increase from 1987 (nominal dollars).

- Indicates a statistically significant decrease from 1987 (nominal dollars).

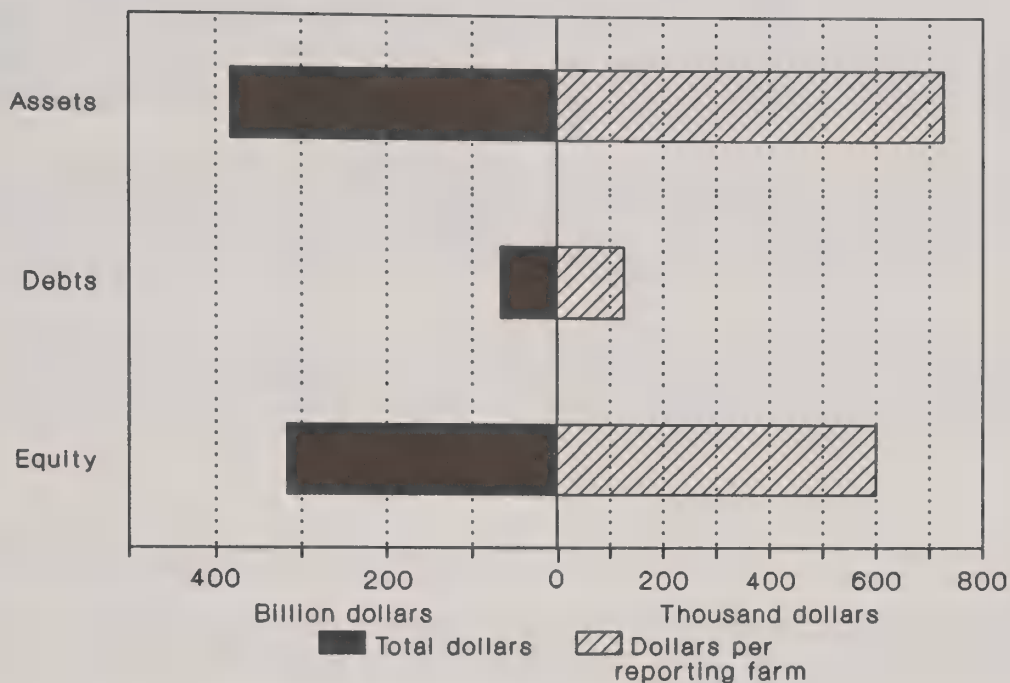
Note: See appendix tables for notes on income items and for coefficients of variation and T statistics on changes from 1987.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

Figure 8

Commercial farm business assets, debt, and equity, 1989¹

Commercial farm operation equity equaled about 83 percent of total assets in 1989.



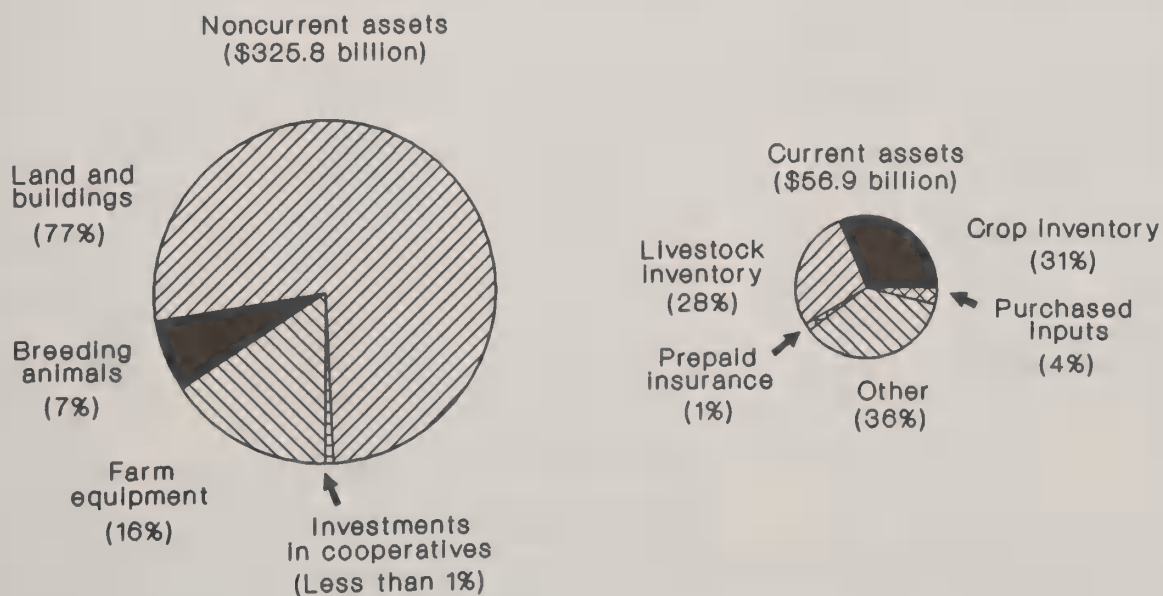
¹Farms with sales of \$40,000 or more.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

Figure 9

Composition of commercial farm business assets, 1989¹

Noncurrent assets made up 85 percent of total farm business assets.



¹Farms with sales of \$40,000 or more.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

Capital Investments and Improvements

About 82 percent of commercial farm operators in the FCRS reported new capital investments in 1989, for an average of about \$21,000 per farm (table 7 and app. table 8). They spent \$8.95 billion on capital investments, such as machinery, equipment, and construction, in 1989, and an additional \$5.57 billion on maintenance and repair. Just more than 80 percent of this investment was for new machinery and equipment, and the remainder was for construction and improvements.

In 1989, 1 in 5 farms reported purchases of tractors, and almost 3 in 10 reported auto and truck purchases. The proportion of commercial farms reporting tractor purchases was up significantly from 1987, when 17 percent reported tractor purchases. The proportion of commercial farms reporting expenditures for new construction and improvements was down slightly during the same period.

Almost all of the survey's commercial farms also reported expenditures for the maintenance and repair of existing capital. In 1989, an average of almost \$11,000 was spent per reporting farm, with 84 percent of these expenditures for the maintenance and repair of motor vehicles, farm machinery, and equipment.

Table 7--Commercial farm expenditures on capital investments and improvements, 1989¹

In 1989, almost 80 percent of commercial farms in the survey purchased machinery and equipment, 28 percent reported expenditures for construction and improvements, and almost all farms reported expenditures for maintenance and repairs.

Item	Farms reporting	Total	Average per reporting farm
	Percent	1,000 dollars	Dollars
New investment:			
Machinery and equipment	79.2	7,289,265 +	17,308 +
Autos and trucks	27.6	1,414,604 +	9,647 +
Tractors	19.8 +	1,947,957 +	18,516 +
Other farm machinery	51.5	3,194,528 +	11,666 +
Other capital equipment	49.0	732,176	2,809
Construction and improvements	27.6 -	1,662,145	11,339 +
Building construction	13.2	1,117,307	15,968
Other farm construction and improvements	18.1 -	544,838	5,673 +
Total new capital investment	81.9 -	8,951,410 +	20,567 +
Maintenance and repair:			
Motor vehicles, farm machinery, and equipment	97.6	4,696,247 +	9,048 +
Farm buildings	38.9 -	567,026	2,743 +
Other farm maintenance and repair	37.2	306,084	1,548 +
Total maintenance and repair	98.7	5,569,357 +	10,617 +

¹For farms with sales of \$40,000 or more.

+ Indicates a statistically significant increase from 1987 (nominal dollars).

- Indicates a statistically significant decrease from 1987 (nominal dollars).

Note: See appendix tables for coefficients of variation and T statistics on changes from 1987.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

Farm Labor and Wages

Farm labor on commercial farms in the FCRS was estimated for the operator and unpaid workers on an hours-per-week basis. Commercial farm operators reported working an average of 54 hours per week on their operations in 1987, 1988, and 1989 (table 8). Over half of all commercial farms also reported using unpaid labor for an average of 37 hours per week in 1989, up slightly from the hours reported in 1987.

Almost 70 percent of the survey's commercial farms also employed family and other workers, and expenditures for their cash wages on all commercial farms were about \$8 billion in 1989, or \$22,000 per reporting farm. About 14 percent of commercial farms reported contract labor expenses as well.

According to information collected in the survey on fringe benefits for employed workers, about 40 percent of commercial farms in 1989 reported cash fringe benefits at an annual average cost of just under \$7,000 per reporting farm. The average annual value of noncash benefits provided by the 27 percent of commercial farms reporting noncash fringe benefits paid was about \$3,000 in 1989.

Table 8--Commercial farm labor and wages, 1989¹

Operators of commercial farms in the 1989 FCRS spent an average of 54 hours per week working on their operations. Over half of the survey's commercial farms reported using unpaid labor for an average of 37 hours per week.

Item	Farms reporting	Total	Average per reporting farm
	Percent	---Hours per week---	
Labor hours	99.4 -	39,977,563	76 +
Operator	99.1 -	28,612,696 -	54
Unpaid	57.0 +	11,364,867	37 +
		1,000 dollars	Dollars
Cash wages	69.5 +	8,173,119	22,117
Operator and family	22.4	1,557,341	13,071 +
Employees	63.2 +	6,615,778	19,695
Contract labor	14.4	1,028,366	13,421
Fringe benefits:			
Cash	40.2 +	1,422,574 +	6,653 +
Noncash	26.7 -	423,642	2,985

¹For farms with sales of \$40,000 or more.

+ Indicates a statistically significant increase from 1987 (nominal dollars).

- Indicates a statistically significant decrease from 1987 (nominal dollars).

Note: See appendix tables for coefficients of variation and T statistics on changes from 1987.

Source: Farm Costs and Returns Survey, U.S. Department of Agriculture.

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Appendix A--Definition of Terms

To facilitate proper use and interpretation of information in this report, we explicitly define all individual data items. These definitions are based on questionnaire contents and other supporting documents used when data are collected. The estimates of expenses, income, assets, and debt items exclude landlords' shares. The following definitions provide detailed explanation of items not fully defined in the text.

Region - Regions, and the States that they contain, are as follows:

Northeast: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont

Lake States: Michigan, Minnesota, Wisconsin

Corn Belt: Illinois, Indiana, Iowa, Missouri, Ohio

Northern Plains: Kansas, Nebraska, North Dakota, South Dakota

Appalachia: Kentucky, North Carolina, Tennessee, Virginia, West Virginia

Southeast: Alabama, Florida, Georgia, South Carolina

Delta: Arkansas, Louisiana, Mississippi

Southern Plains: Oklahoma, Texas

Mountain: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming

Pacific: California, Oregon, Washington

Type of Farm Organization - Respondents were asked to identify their farm operation as an individual operation, partnership, corporation, or cooperative. Because of the limited number of cooperatives, this category was dropped from the analysis. In 1988 and 1989, corporate farms were identified as family or nonfamily (see appendix tables).

Tenure - Defined as acres owned divided by total land operated. Three classes were established. Full tenants rented all of the acres operated during the reporting year. Full owners owned all land operated. Part owners owned at least one acre and rented some portion of total land operated.

Landownership and Use - Landownership and leasing, and land use and management items are defined as follows:

Land and buildings owned - Acreage of land owned during the reporting year or land encompassed by buildings owned by the farm operation at the beginning of the year.

Land cash rented - Acreage rented during the year for which a cash rent was paid (excludes land rented or leased on an animal-unit-month basis).

Land share rented - Acreage provided by one or more landlords for which a value of commodity produced was rendered as payment.

Land rented or leased to others - Acreage provided to other farm operators either rent free, for cash rent, or under a share rent agreement.

Land used for pasture - Acreage that was grazed during the reporting year. Includes both permanent acreage and cropland. Land in crop diversion programs pastured under special permit was included. Orchards or woodland used for grazing during the year were excluded.

Cropland in conservation tillage - Acreage on which no-till; reduced, mulch, or minimum till; and ridge or strip till practices occurred during the reporting year. To be included, these alternative planting or tillage systems must have retained at least 30-percent residue cover on the soil surface after planting.

Cropland removed from production - Land diverted from production in compliance with Government agricultural programs including set-aside, Conservation Reserve Program (CRP), and any other Federal, State, or local program.

Summer fallow - Land left idle for an entire year as part of a crop rotation practice.

Total land operated (acres operated) - Agricultural land owned plus land rented or leased from others (excluding Public Industrial Grazing Association or other Government land rented on an animal-unit-month basis), less land rented out.

Production Specialty - Farm operators were asked to identify the farm production specialty classification that represented the largest portion of gross commodity receipts from their farm operation. They are:

Cash grains - Largest portion of farm receipts from corn, soybeans, other grains (such as wheat, oats, barley, rye, and sorghum), and/or rice.

Tobacco - Largest portion of farm receipts from tobacco.

Cotton - Largest portion of farm receipts from cotton and cottonseed.

Other field crops - Largest portion of farm receipts from peanuts, Irish potatoes, sunflowers, sweet potatoes, sugarcane, broomcorn, popcorn, sugarbeets, mint, hops, seed crops, hay, silage, and forage or any remaining farms that received the majority of farm income from the sales of other types of field crops.

Vegetables, fruits, or nuts - Largest portion of farm receipts from vegetables, fruits, tree nuts, and/or berries.

Nursery or greenhouse - Largest portion of farm receipts from nursery and/or greenhouse products.

Beef, hog, or sheep - Largest portion of farm receipts from cattle (except dairy breeding stock), hogs, pigs, sheep, and/or lambs.

Poultry - Largest portion of farm receipts from broilers, other chickens, turkeys, and/or eggs.

Dairy - Largest portion of farm receipts from milk and dairy products.

Other livestock - Largest portion of farm receipts from mules, horses, foals and ponies, fur farms, bees and honey, fish, minnows, or any remaining livestock farms.

Farm Operation Income Statement

Gross cash farm income

Livestock sales - Gross value of all livestock items sold from the farm or ranch, including marketing charges and livestock sold under marketing contracts.

Crop sales - Gross value of all crop items sold from the farm or ranch, including marketing charges and crops sold under marketing contracts. Also includes net Commodity Credit Corporation loans (value of crops placed under CCC loans in the reporting year less the value of CCC loans repaid, not forfeited).

Government farm payments - Gross value of direct payments by the Federal Government (excluding wool and unshorn lamb wool payments), including the face value of commodity (PIK) certificates, plus the premium received from PIK certificates excluding the landlord's share.

Other farm income - Income from custom work, machine-hire, land rented to others, livestock grazing, contract production fees, outdoor recreation, and any other farm-related income.

Cash expenses - Variable expenses including:

Livestock purchases - Farm expenses (farm's share of expenses excluding landlord and contractor expenses) for purchases of:

Cattle and calves - Beef and dairy cows, bulls, and replacement heifers, as well as calves and all other cattle.

Hogs and pigs - Sows, boars, and replacement gilts, as well as all other hogs and pigs.

Sheep and lambs - Sheep and lamb breeding stock, as well as all other sheep and lambs.

Poultry - Broiler chicks, egg-type chicks, starter pullets, layers, and turkeys.

Other livestock - Other livestock or poultry such as horses, fish, goats, bees, mink, eggs, milk, and wool.

Feed - Farm expenses for purchases of feed grains, hay, forages, mixed or formula feeds, concentrates, supplements, salt, minerals, byproducts, or additives.

Veterinary services and supplies - Farm expenses for veterinary services or miscellaneous livestock, dairy, and poultry medical services and supplies. Includes branding, castrating, caponizing, performance testing, artificial insemination, breeding fees, sheep shearing, and so forth.

Other livestock-related expenses - Farm expenses for livestock leasing, custom feed processing, bedding, and grazing.

Seed and plants - Farm expenses for purchases of seeds, plants, and related expenses, such as seed cleaning, inoculation, rooting hormones, bagging, germinating, and delinting.

Fertilizer and chemicals - Farm expenses for purchases of commercial chemical fertilizers, lime, and soil conditioners (such as manure, gypsum, and humus), including material expenses for noncustom applications and material and application expenses for custom applications. Also includes purchases of pesticides for use on crops, pastures, storage structures, seeds, or seedbeds, including material and application expenses for custom applications.

Labor - Farm expenses paid for:

Hired labor - Total cash wages including bonuses for all hired workers including family members; expenses of insurance, pensions, and employer's share of social security taxes, workers' compensation, and unemployment compensation; and cash values of furnished lodging, board, and other items.

Contract labor - Total expenses for contract labor.

Fuels and oils - Farm purchases of diesel, gasoline (both delivered bulk and purchased at a service station), liquid petroleum and natural gas, other fuel (such as fuel oil, kerosene, coal, and wood), and motor oils and fluids.

Repairs and maintenance - Farm expenses for repairs and replacement parts for all motor vehicles and farm machinery and equipment (including overhauls, tuneups, tires, tubes), miscellaneous equipment, hand tools, and supplies; and operator expenditures for maintenance and repair of farm buildings, fencing, irrigation, and land and other farm improvements.

Machine-hire and custom work - Farm expenses for custom work such as land tillage, planting or seeding, and harvesting (excluding contract labor, land improvements, and custom-hired fertilizer and pesticide applications).

Utilities - Farm expenses for electricity, telephone, water, and so forth.

Other variable expenses - Farm expenses for supplies, registration fees, transportation and storage, and general business expenses.

Cash expenses - Fixed expenses including:

Real estate and property taxes - Total property taxes paid.

Interest - Interest paid on farm real estate debt and operating loans for the farm business.

Insurance - FCIC insurance, all other crop and livestock insurance, and all other insurance, such as the farm share of motor vehicle liability and blanket insurance policies.

Rent and lease payments - Total annual cost of cash-rented land.

Net cash farm income - Gross cash farm income (as defined above) less cash expenses. Represents income available to farm operators for living expenses, principal payment, income taxes, and other expenses or reinvestment in the farm.

Depreciation - Farm depreciation expenses for all capital assets.

Labor, noncash benefits - Noncash benefits provided to paid workers.

Value of inventory change - Net change in the value of crop, livestock, feed, fertilizer, and other supplies in inventory.

Nonmoney income - The value of home consumption and imputed rental value of farm dwellings.

Net farm income - Net cash farm income minus depreciation plus the value of inventory change and nonmoney income. Reflects the return or loss to operator and unpaid family labor, management, and equity capital associated with the reporting year's production.

Farm Balance Sheet

Farm assets - The estimated market value on December 31 of the reporting year of all capital assets owned by the farm operation.

Current assets - Assets that will be realized in cash, sold, or consumed in the production process within one year. Current assets include livestock inventory, crop inventory, purchased inputs, prepaid insurance, and other current assets.

Noncurrent assets - Assets that support the production process and farm real estate. Noncurrent assets include investments in cooperatives, land and buildings, farm equipment, and breeding animals.

Farm operation liabilities - Total amount of debt owed by the farm or ranch on December 31 of the reporting year. Includes outstanding principal plus unpaid interest owed to any banks, individuals, co-ops, merchants, or Federal agencies.

Current liabilities - Current liabilities are obligations that are due on demand or will be due on demand within 1 year from the balance sheet date. Current liabilities include notes payable within 1 year, current portion of term debt, accrued interest, and accounts payable.

Noncurrent liabilities - Noncurrent liabilities represent the outstanding balance as of December 31 of the reporting year for loans originating for a period of more than 1 year less the estimated amount of current obligations.

Liabilities by lender - The categories of lenders reported in the balance sheet include: Farmers Home Administration, Farm Credit System, commercial banks, and other.

CCC crop loans - Commodity Credit Corporation (CCC) crop loans outstanding at the end of the reporting year.

Net worth - The difference between farm assets and farm operation liabilities.

Capital Investments and Improvements

New investment (excludes expenditures paid by landlords):

Autos and trucks - Operator expenditures for the farm share of any purchases of autos, trucks, and pickups (minus trade-ins, rebates, or discounts) during the reporting year.

Tractors - Operator expenditures for tractors, minus trade-ins, rebates, or discounts.

Other farm machinery - Operator expenditures for farm machinery, implements, or equipment other than tractors, including tillage, planting, fertilizing, chemical, harvesting, and haying machinery, and other motor vehicles, machinery, and equipment.

Other capital equipment - Operator expenditures for the farm share of accessory equipment for all motor vehicles and machinery and for farm power shop equipment, capital equipment for livestock and poultry, and farm office equipment.

Building construction - Operator expenditures, including materials, labor, and services, for any farm buildings, mobile homes, storage bins, silos, or homes that were constructed or remodeled.

Other farm construction and improvements - Operator expenditures for new construction of land improvements, irrigation improvements for farm or greenhouse, new fencing, and all other farm or ranch improvements.

Maintenance and repair:

Motor vehicles, farm machinery, and equipment - The farm share of operator outlays for repairs and replacement parts for all motor vehicles and farm machinery and equipment.

Farm buildings - Operator expenditures for the cost of materials for the maintenance and repair of farm buildings, including contract services.

Other farm maintenance and repair - Operator expenditures for maintenance and repair of land and irrigation improvements, fences, and all other farm or ranch improvements.

Farm Labor and Wages

Operator hours worked - The average hours per week that the farm operator worked for each month during the reporting year.

Unpaid labor hours worked - Average hours per week devoted to farm duties by all persons who received no cash wages, or any other type of compensation that was not considered a business expense of the operation during the year.

Cash wages paid to operator and family members - Total cash wages, incentives, bonuses, and percentage of profits (excluding fringe benefits) paid to the operator and family members during the year. A draw on proceeds of the farm business at the end of the year was not considered a labor expense.

Cash wages paid to employees - All cash wages, incentives, bonuses, and percentage of profits (excluding fringe benefits) paid to hired agricultural workers during the year.

Contract labor - The amount of expenses that were paid for the services of both machines and workers provided by a crew leader, contractor, buyer, processor, cooperative, or other person having a written or oral agreement during the year.

Cash fringe benefits - Includes any life or health insurance, pension or retirement plans, workers' compensation, and the employer's share of social security and unemployment taxes paid during the year.

Noncash fringe benefits - The estimated cash value of housing, meals, fuel, transportation, and any other items furnished to workers during the year.

Appendix B--The Farm Costs and Returns Survey

The 1987, 1988, and 1989 Farm Costs and Returns Surveys (FCRS) provided the data for this report. The U.S. Department of Agriculture's (USDA) Economic Research Service (ERS) and National Agricultural Statistics Service (NASS) conduct this survey each year. The FCRS is the most comprehensive national annual data source available on farm financial and operating characteristics. A major advantage of the FCRS over other data sources is that details on expenses, income, assets, debt, and many other items can be disaggregated by production region, farm size, production specialty, and other characteristics. Such detail is important for a thorough understanding of the farm economy because it represents a collection of diverse agricultural enterprises.

Both NASS and ERS use the FCRS data extensively for production expense summaries, financial analyses, other publications, and staff work. NASS annually releases FCRS statistics on farm production expenses, while ERS publishes a detailed summary of financial characteristics of U.S. farms (Morehart, Johnson, and Banker, 1988, 1989, and 1990). ERS conducts research on the financial status of farms and presents the findings in USDA publications, professional journals, conference presentations, and other outlets. NASS and ERS also use the data to publish annual State and regional summaries of farm financial conditions (U.S. Dept. of Agriculture, NASS and ERS, Farm Costs and Returns Survey, Summary).

Data Reliability and Survey Coverage

More than 24,000 farms and ranches are contacted annually through personal interviews during February and March. The sample originates from two sources. The first is a list of known operators of farms stratified by economic size and other attributes. That sample, the list frame, contains larger, more specialized operations. It is difficult, however, to maintain a current list for smaller operations. Thus, an area frame is used to compensate for any incompleteness in the list frame. The area frame sample consists of land segments located within the 48 contiguous States stratified by land use. Rigorous procedures are followed to prevent the inclusion of any one farm in both sample frames.

The FCRS is a probability-based survey. Since the FCRS is a probability sample, each respondent represents a number of farms of similar size and type. Thus, sample data can be expanded using appropriate weights to represent all U.S. farms. Estimates based on the expanded sample differ from what would have occurred if a complete enumeration had been taken. These differences result from sampling and nonsampling variability (Ford, Nealon, and Tortora, 1986). The coefficient of variation (C.V.) can measure sampling variability to provide a perspective on the reliability of the data. The C.V. pertains to weighted estimates for each item, and reflects the inherent variability of the item and variation induced through sample design.¹ We question the reliability of an estimate when the C.V. exceeds 25 percent. Thus, the data user should exercise caution when interpreting items reported with C.V.'s of this magnitude or higher.

To statistically examine whether or not items differ year-to-year, we computed T-tests for each item comparing the 1987 value to the 1989 value, 1987 to 1988, and 1988 to 1989. To test if the population means are equal, we calculated the probability of seeing a difference at least as large as that observed in the FCRS sample, even if there is no difference in the population. We have used the 95-percent confidence level, unless noted, to test the hypotheses that the numbers, proportions, totals, and means between years are different or equal in the population.

¹ The coefficient of variation (C.V.) is the standard deviation of the estimate expressed as a percentage of the estimate. The C.V. is computed by dividing the standard deviation of an item by the estimate of that item and multiplying the result by 100. The standard deviation measures the variability of the item. It is expressed in the same units of measure (for example, dollars) as the estimate. The coefficient of variation, then, can be used to examine the reliability of the data and permits comparison between estimates, because it is a relative measure. A coefficient of variation is computed each time a data item is constructed, for example, when computing the number of farms in a region as well as the percentage of all U.S. farms in a particular region.

Data collection procedures are made uniform and consistent across the Nation by extensively training and supervising data collectors. Efforts are also undertaken to minimize other types of potential nonsampling errors by using extensive edit and data analysis. Questionnaires are hand edited in State offices and through computerized routines in Washington. The extent of nonsampling errors is not known or directly measurable.

NASS personnel in Washington combined the data collected in States and constructed farm size, geographic location, and production specialty variables on the basis of reported information for each farm operation. NASS is also responsible for constructing survey expansion factors, or weights. ERS provides additional information by constructing additional classification variables and by defining aggregated expense, income, asset, and debt categories as well as major financial indicators, such as net farm income and debt/asset ratio for each farm.

Comparability With Other Sources of Agricultural Data

FCRS estimates, for various reasons, often differ from other agricultural data sources. Therefore, direct comparisons between FCRS estimates published in this report and other available data should be made only with careful consideration to sample design, data collection procedures, and underlying variable definitions.

1987 Census of Agriculture

In 1987, for the first time, the Census of Agriculture (every 5 years) and the Farm Costs and Returns Survey (annual) were conducted simultaneously (U.S. Department of Commerce, 1989). Each survey gathers economic and physical agricultural data from a common target population--all farms that sold or normally would have sold at least \$1,000 worth of agricultural products. Aside from this similarity of purpose, there are several differences that limit comparability of data obtained from these surveys.

The most obvious differences pertain to sample design and data collection procedures. The Census of Agriculture requires mandatory participation, while the FCRS relies on voluntary response. As a result, the Census involves a complete enumeration of farms (for most items). The FCRS uses a probability-based, multiframe sampling approach, which provides estimates that are representative of the U.S. population of farms based on a smaller subsample. Questionnaires are mailed to targeted farms and are completed by respondents for the Census. FCRS data are collected through personal interview by trained enumerators. The FCRS is conducted in the 48 contiguous States, while the Census includes Alaska and Hawaii. The Census of Agriculture also includes institutional farms, which are excluded in the FCRS.

In many instances, there are conceptual differences associated with specific pieces of information obtained from these surveys due to the wording of questions asked or the instructions associated with collecting the information. In other cases, the level of detail may differ between the types of questions asked, which prohibits direct comparisons. Finally, the inclusions of landlord and contractor shares of income and expenses may not be consistent between specific categories.

USDA Agricultural Data

Estimates of income, expenses, assets, and debt of the U.S. farm sector reported in Economic Indicators of the Farm Sector Series (ECIFS) are not directly comparable with estimates from this report (U.S. Dept. of Agriculture, 1991; U.S. Dept. of Agriculture, Agricultural Income and Finance Situation and Outlook). ECIFS estimates represent a combination of several data sources. In many instances, procedures used and assumptions made are dictated by the format of available data. Since the FCRS estimates represent farm operators, these estimates are typically below those of ECIFS, which represent the entire farm sector (farm operators, landlords, contractors, corporate shareholders, and others). ECIFS estimates also cover all 50 States versus the 48 States covered by the FCRS.

Appendix table 1--Selected characteristics of commercial farms, 1987-89

Item	1987				1988				1989			
	Sample		T		Sample		T		Sample		T	
	count	Expanded count	C.V. ¹	statistic (1987-89)	count	Expanded count	C.V.	statistic (1987-88)	count	Expanded count	C.V.	statistic (1988-89)
	Number of farms reporting				Number of farms reporting				Number of farms reporting			
			Percent				Percent				Percent	
Region:												
Northeast	484	46,308	6.11	-3.37	567	39,641	5.79	-1.83	628	35,275	4.67	-1.54
Lake States	666	85,195	3.92	-1.74	971	86,151	3.97	.20	722	76,963	4.38	-1.91
Corn Belt	1,156	152,389	3.11	-2.92	1,418	144,219	3.47	-1.18	1,024	132,699	3.60	-1.66
Northern Plains	1,021	85,752	4.02	-.25	1,105	92,600	4.18	1.32	663	84,436	4.82	-1.45
Appalachian	703	39,005	6.81	-1.35	694	38,406	6.87	-.16	641	34,046	7.41	-1.19
Southeast	615	24,012	9.10	-.28	646	25,689	9.99	.50	590	23,134	10.00	-.74
Delta	584	23,863	8.02	-2.41	669	19,110	10.08	-1.75	421	17,529	10.24	-.60
Southern Plains	636	38,600	8.12	.95	825	46,228	7.54	1.63	555	42,984	7.82	-.67
Mountain	763	37,850	6.93	-.05	966	33,782	5.32	-1.28	832	37,696	5.41	1.44
Pacific	639	36,248	6.31	2.30	718	35,906	5.80	-.11	730	46,868	8.54	2.43
All regions	7,267	569,222	1.68	-2.72	8,579	561,731	1.73	-.55	6,806	531,630	1.88	-2.16
Organization:												
Corporate	698	31,762	5.82	.66	976	33,395	5.91	.60	774	33,667	6.53	.09
Family corporation	n.a.	n.a.	n.a.	n.a.	797	27,562	6.18	n.a.	647	28,228	6.89	.26
Other corporation	n.a.	n.a.	n.a.	n.a.	179	5,834	17.36	n.a.	127	5,439	19.36	-.27
Partnership	1,223	67,551	4.73	-1.44	1,485	64,211	4.99	-.74	1,214	60,512	6.08	-.76
Individual	5,339	469,692	1.94	-2.50	6,100	463,863	2.00	-.45	4,802	436,985	2.15	-2.04
Tenancy:												
Full tenant	1,160	89,877	4.40	-2.52	1,436	74,927	5.49	-2.62	935	75,556	5.40	.11
Part tenant	4,521	320,400	2.14	.04	5,329	340,740	2.15	2.03	4,287	320,789	2.36	-1.89
Full owner	1,586	158,945	4.00	-2.74	1,814	146,064	3.93	-1.50	1,584	135,285	4.32	-1.32

Continued --

Appendix table 1--Selected characteristics of commercial farms, 1987-89 -- continued

Item	1987				1988				1989			
	Sample count	Expanded count	C.V. ¹	T statistic (1987-89)	Sample count	Expanded count	C.V.	T statistic (1987-88)	Sample count	Expanded count	C.V.	T statistic (1988-89)
	Number of farms reporting				Number of farms reporting				Number of farms reporting			
			Percent				Percent				Percent	
Land use:												
Land and buildings owned	6,265	491,149	1.84	-1.94	7,344	495,566	1.82	0.35	5,996	465,755	2.03	-2.28
Land rented in	5,679	410,196	1.87	-1.24	6,762	415,614	1.98	.48	5,220	396,170	2.11	-1.66
Cash rented	4,368	293,760	2.13	.20	5,147	315,744	2.32	2.28	4,108	295,703	2.54	-1.91
Share rented	2,654	199,327	2.79	-1.67	3,215	190,077	2.79	-1.20	2,195	186,685	2.75	-.46
Free of charge	407	33,257	8.96	.25	403	25,651	8.65	-2.05	452	34,430	10.85	2.02
Land rented out	689	48,465	6.87	-.04	938	54,900	6.27	1.34	613	48,260	7.23	-1.35
Pasture	4,371	354,571	2.26	-2.36	4,487	333,564	2.32	-1.89	4,100	327,512	2.51	-.54
Conservation tillage	1,873	163,051	3.23	-6.20	2,108	153,385	3.16	-1.35	1,472	120,054	3.76	-5.04
Removed from production	5,032	372,999	1.92	-7.01	5,805	360,541	2.02	-1.22	3,592	303,709	2.24	-5.70
Long-term	518	38,745	7.30	3.54	673	44,587	6.60	1.43	667	53,756	5.88	2.12
Government programs	4,859	361,311	1.97	-8.79	5,455	341,169	2.08	-2.01	3,228	277,345	2.30	-6.70
Summer fallow	861	52,023	4.62	-1.75	1,017	57,244	5.55	1.31	742	45,915	5.50	-2.79
Total acres operated	7,265	569,141	1.68	-2.73	8,574	561,512	1.73	-.56	6,803	531,413	1.88	-2.16
Acreage class:												
1-49 acres	352	35,979	8.82	-.54	468	31,755	9.02	-.99	331	33,161	12.36	.28
50-99 acres	210	19,206	9.86	-.25	244	20,557	9.77	.49	230	18,456	12.76	-.68
100-139 acres	187	21,254	10.44	-.36	224	23,131	10.03	.58	200	20,147	10.87	-.94
140-179 acres	229	29,221	9.20	.15	259	25,627	9.16	-1.01	249	29,800	9.63	1.13
180-219 acres	254	29,244	8.51	-2.89	245	28,917	10.38	-.08	222	19,825	10.62	-2.48
220-259 acres	256	32,841	8.55	-2.70	278	27,168	8.64	-1.55	241	23,206	9.48	-1.23
260-499 acres	1,249	131,145	3.80	-1.85	1,524	135,328	3.77	.59	1,264	118,074	4.25	-2.41
500-999 acres	1,812	135,685	3.70	-.90	2,103	129,387	3.62	-.92	1,704	129,375	3.76	-.00
1,000-1,999 acres	1,506	80,479	4.03	.09	1,814	81,971	4.44	.31	1,225	80,928	4.70	-.20
2,000 or more	1,212	54,168	4.63	1.23	1,417	57,678	5.12	.91	1,138	58,613	4.42	.24

Continued --

Appendix table 1--Selected characteristics of commercial farms, 1987-89 -- continued

Item	1987				1988				1989			
	Sample count	Expanded count	C.V. ¹	T statistic (1987-89)	Sample count	Expanded count	C.V.	T statistic (1987-88)	Sample count	Expanded count	C.V.	T statistic (1988-89)
	Number of farms reporting				Number of farms reporting				Number of farms reporting			
			Percent				Percent				Percent	
Sales class:												
\$500,000 or more	1,036	34,158	5.38	0.06	1,545	34,830	4.82	0.27	1,199	34,318	5.47	-0.20
\$250,000 - 499,999	1,372	75,791	4.55	-1.83	1,795	70,449	3.94	-1.21	1,352	67,608	4.22	-.71
\$100,000 - 249,999	2,641	206,154	2.73	-1.73	3,017	207,786	2.83	.20	2,380	192,870	2.72	-1.89
\$40,000 - 99,999	2,218	253,119	3.00	-1.44	2,222	248,665	3.14	-.41	1,875	236,834	3.54	-1.03
Farm type:												
Cash grains	2,089	191,880	2.89	-2.98	2,563	178,919	3.08	-1.66	1,829	169,266	3.06	-1.28
Tobacco	238	8,609	11.61	1.16	170	11,154	12.11	1.51	199	10,557	12.73	-.31
Cotton	600	17,285	7.90	-2.18	362	13,672	10.88	-1.79	278	13,132	10.11	-.27
Other field crops	518	23,295	9.28	-.19	940	23,113	8.86	-.06	392	22,669	11.34	-.14
Vegetable, fruit, or nuts	363	25,134	7.31	.96	392	26,822	7.91	.60	560	27,888	7.89	.35
Nursery or greenhouse	113	10,780	16.76	-.51	206	13,839	13.55	1.17	165	9,723	10.79	-1.91
Beef, hog, or sheep	1,834	139,014	3.76	.17	2,438	158,011	3.54	2.48	1,311	140,435	4.46	-2.09
Poultry	161	19,790	13.83	-.87	117	14,265	16.34	-1.54	109	15,954	21.78	.40
Dairy	1,209	121,246	3.76	-1.66	1,336	116,612	3.74	-.73	1,868	111,635	3.21	-.88
Other livestock	142	12,190	13.95	-.80	55	5,325	22.10	-3.32	95	10,370	14.55	2.64
Operator's occupation:												
Farming	6,574	505,003	1.73	-1.91	7,860	506,194	1.78	.09	6,195	480,562	1.96	-1.97
Hired farm manager	166	9,373	14.26	-.44	202	8,161	14.30	-.68	165	8,538	15.88	.21
Other occupation	527	54,846	7.40	-2.36	513	47,089	7.10	-1.47	445	42,527	7.75	-.97

Continued --

Appendix table 1--Selected characteristics of commercial farms, 1987-89 -- continued

Item	1987				1988				1989			
	Sample count	Expanded count	C.V. ¹	T statistic (1987-89)	Sample count	Expanded count	C.V.	T statistic (1987-88)	Sample count	Expanded count	C.V.	T statistic (1988-89)
	Number of farms reporting				Number of farms reporting				Number of farms reporting			
			Percent				Percent				Percent	
Operator's age:												
Younger than 34 years	994	93,521	4.79	-1.65	1,187	91,137	5.60	-0.35	812	82,289	6.22	-1.22
35 - 44 years	1,770	135,876	3.72	-1.76	2,095	128,168	3.67	-1.12	1,637	123,739	3.79	-.67
45 - 54 years	1,836	143,485	3.55	-2.05	2,199	135,058	3.78	-1.17	1,737	128,428	4.12	-.90
55 - 59 years	982	69,240	4.55	-1.01	1,133	72,644	4.77	.73	906	64,605	5.15	-1.67
60 - 64 years	857	64,107	5.26	-.14	1,042	70,082	4.77	1.26	818	63,464	5.18	-1.41
65 - 69 years	474	34,471	8.96	1.61	517	34,616	7.65	.04	519	41,680	7.81	1.68
70 years or older	354	28,523	9.15	-.30	406	30,027	8.40	.41	377	27,425	9.50	-.72
Operator's education:												
Less than high school	1,085	96,846	5.09	-1.43	1,126	93,207	4.84	-.54	1,079	87,821	4.52	-.90
High school	3,070	257,074	2.48	-2.46	3,448	243,418	2.70	-1.49	2,774	233,224	3.12	-1.04
Some college	1,732	130,142	3.92	-1.29	2,173	134,011	3.76	.54	1,555	120,989	4.05	-1.85
College	1,134	67,469	5.07	.61	1,465	70,303	4.72	.59	1,120	70,808	6.02	.09
Graduate school	246	17,690	10.98	.42	362	20,412	9.63	.99	276	18,784	9.10	-.63

Continued --

Appendix table 1--Selected characteristics of commercial farms, 1987-89 -- continued

Item	1987				1988				1989			
	Sample count	Expanded count	C.V. ¹	T statistic (1987-89)	Sample count	Expanded count	C.V.	T statistic (1987-88)	Sample count	Expanded count	C.V.	T statistic (1988-89)
	Number of farms reporting				Number of farms reporting				Number of farms reporting			
			Percent				Percent				Percent	
Farm business income statement:												
Gross cash income	7,198	555,595	1.65	-2.23	8,547	558,981	1.73	0.25	6,774	525,522	1.87	-2.43
Livestock sales	4,718	386,828	2.02	-2.04	5,337	390,607	2.08	.34	4,451	363,012	2.38	-2.33
Crop sales (including net CCC loans)	5,706	421,963	1.82	-3.57	6,584	414,862	2.02	-.62	4,947	383,095	2.01	-2.79
Government payments	5,146	380,608	1.89	-1.77	6,138	387,066	1.99	.61	4,346	362,022	2.10	-2.31
Other farm-related income ²	5,660	439,264	1.84	-4.48	6,439	427,557	1.94	-1.01	4,723	388,031	2.09	-3.40
Less:												
Cash expenses	7,202	557,439	1.67	-2.20	8,550	559,589	1.73	.16	6,782	527,495	1.89	-2.31
Variable expenses	7,201	557,402	1.67	-2.20	8,546	559,316	1.73	.14	6,781	527,470	1.89	-2.29
Livestock purchases	3,367	268,396	2.56	-1.11	3,837	272,048	2.58	.37	3,072	256,745	3.07	-1.45
Feed	4,720	390,064	2.09	-1.96	5,328	391,705	2.10	.14	4,513	366,736	2.36	-2.09
Veterinary services and supplies	4,560	377,672	2.07	-1.94	5,151	377,917	2.15	.02	4,367	355,124	2.41	-1.93
Other livestock- related expenses ³	1,191	106,787	4.22	4.10	1,370	106,434	4.36	-.05	1,761	136,185	4.10	4.10
Seed and plants	6,440	492,812	1.70	-2.80	7,519	491,033	1.81	-.15	5,945	459,044	1.89	-2.57
Fertilizer and chemicals	6,679	512,681	1.67	-3.31	7,814	509,151	1.79	-.28	6,226	472,372	1.84	-2.92
Labor	5,774	396,523	1.93	-.21	6,871	385,447	2.03	-1.01	5,694	394,154	2.17	.75
Fuels and oils	7,126	549,411	1.66	-1.92	8,470	554,546	1.74	.39	6,714	523,469	1.90	-2.25
Repairs and maintenance	7,117	550,225	1.68	-2.16	8,435	552,294	1.74	.16	6,698	521,113	1.88	-2.27
Machine-hire and custom work	3,664	270,561	2.45	2.09	4,996	306,703	2.32	3.72	3,767	291,115	2.49	-1.54
Utilities	6,913	536,925	1.71	-1.88	8,340	544,211	1.73	.55	6,611	511,884	1.89	-2.39
Other variable expenses ⁴	7,171	554,742	1.66	-2.32	8,528	558,596	1.73	.29	6,754	523,492	1.88	-2.54

Continued --

Appendix table 1 --Selected characteristics of commercial farms, 1987-89 -- continued

Item	1987				1988				1989			
	Sample count	Expanded count	C.V. ¹ (1987-89)	T statistic (1987-89)	Sample count	Expanded count	C.V. (1987-88)	T statistic (1987-88)	Sample count	Expanded count	C.V. (1988-89)	T statistic (1988-89)
	Number of farms reporting				Number of farms reporting				Number of farms reporting			
				Percent				Percent				Percent
Farm business income statement -- continued:												
Fixed expenses	7,175	555,023	1.68	-2.18	8,537	559,169	1.73	0.31	6,765	525,402	1.89	-2.44
Real estate and property taxes	6,473	499,843	1.80	-2.37	7,604	506,363	1.79	.51	6,124	468,903	2.01	-2.86
Interest on real estate debt	5,877	440,598	1.80	-2.21	6,990	450,106	2.01	.79	5,426	414,519	2.10	-2.83
Insurance premiums	6,954	534,925	1.68	-1.62	8,335	542,621	1.73	.59	6,571	513,385	1.91	-2.15
Rent and lease payments	4,782	324,910	2.01	.27	5,708	348,706	2.26	2.32	4,586	327,622	2.37	-1.91
Equals: Net cash farm income	7,203	557,476	1.67	-2.20	8,551	559,596	1.73	.16	6,783	527,514	1.89	-2.31
Less:												
Depreciation	6,496	500,705	1.68	-.39	7,691	499,506	1.83	-.10	6,345	495,717	1.94	-.29
Labor, noncash benefits	2,804	173,772	2.86	-5.00	2,763	137,930	3.46	-5.20	2,458	140,183	3.22	.34
Plus:												
Value of inventory change	4,924	401,378	1.94	-.77	5,578	396,363	2.10	-.44	4,674	392,264	2.27	-.34
Nonmoney income ⁵	5,713	459,915	1.86	-2.86	6,600	466,601	1.87	.55	5,313	424,290	2.13	-3.37
Equals: Net farm income	7,203	557,476	1.67	-2.20	8,551	559,612	1.73	.16	6,783	527,514	1.89	-2.31
Farm business balance sheet:												
Farm assets	7,195	556,650	1.67	-2.14	8,546	559,501	1.73	.21	6,778	527,431	1.89	-2.31
Current assets	7,175	554,894	1.68	-2.20	8,523	557,838	1.73	.22	6,744	525,026	1.89	-2.37
Livestock inventory	4,547	374,678	2.09	-10.87	5,119	375,585	2.16	.08	3,022	255,797	2.99	-10.76
Crop inventory	4,722	402,184	1.89	-.61	4,971	353,430	2.17	-4.51	4,796	395,325	2.12	3.69
Purchased inputs	4,577	353,759	2.08	-4.53	5,275	331,663	2.19	-2.14	3,905	304,680	2.62	-2.50
Prepaid insurance	6,954	534,925	1.68	-1.62	8,335	542,621	1.73	.59	6,571	513,385	1.91	-2.15
Other assets ⁶	6,293	491,948	1.80	-5.76	7,023	458,440	1.94	-2.67	5,278	419,173	2.15	-3.10

Continued --

Appendix table 1--Selected characteristics of commercial farms, 1987-89 -- continued

Item	1987				1988				1989			
	Sample count	Expanded count	C.V. ¹	T statistic (1987-89)	Sample count	Expanded count	C.V.	T statistic (1987-88)	Sample count	Expanded count	C.V.	T statistic (1988-89)
	Number of farms reporting				Number of farms reporting				Number of farms reporting			
			Percent				Percent				Percent	
Farm business balance sheet--continued:												
Noncurrent assets	7,172	555,835	1.67	-2.35	8,461	556,413	1.74	0.04	6,720	523,853	1.90	-2.43
Investments in cooperatives	n.a.	n.a.	n.a.	n.a.	2,798	157,092	3.20	n.a.	2,119	156,603	3.11	-31.22
Land and buildings ⁷	6,286	487,076	1.83	-.65	7,523	503,551	1.80	1.30	6,192	478,551	2.00	-1.89
Operator dwelling	4,993	406,825	2.03	-2.50	5,827	418,163	2.02	.96	4,755	376,685	2.32	-3.42
Farm equipment	6,909	538,517	1.70	-2.23	8,164	541,653	1.78	.24	6,438	508,463	1.94	-2.40
Breeding animals	4,547	374,678	2.09	-7.10	5,119	375,585	2.16	.08	3,579	294,779	2.74	-7.06
Farm operation liabilities	7,129	550,649	1.68	-2.08	8,440	555,215	1.74	.34	6,734	522,468	1.90	-2.36
Current liabilities	7,129	550,649	1.68	-2.08	8,440	555,215	1.74	.34	6,734	522,468	1.90	-2.36
Notes payable within 1 year	4,290	320,123	2.14	-20.19	2,411	153,105	3.99	-18.21	1,746	139,122	4.17	-1.66
Current portion of term debt	5,444	410,879	1.85	-4.92	5,873	374,928	2.13	-3.26	4,720	356,164	2.28	-1.65
Accrued interest	5,674	428,373	1.82	-3.00	6,527	423,290	2.09	-.43	5,174	393,681	2.16	-2.41
Accounts payable	6,988	538,384	1.70	-2.05	8,278	545,491	1.76	.54	6,616	510,840	1.93	-2.52
Noncurrent liabilities	5,444	410,879	1.85	-4.92	5,874	374,930	2.13	-3.26	4,720	356,164	2.28	-1.65
Non-real estate	n.a.	n.a.	n.a.	n.a.	4,000	251,356	2.67	n.a.	3,396	251,006	2.54	-.04
Real estate	n.a.	n.a.	n.a.	n.a.	3,875	234,996	2.63	n.a.	2,790	206,520	3.17	-3.16
By lender:												
Farmers Home Admin.	1,600	109,615	3.87	-1.78	1,693	99,696	4.34	-1.64	1,311	98,965	4.28	-.12
FCS	2,441	161,068	2.94	-3.74	2,748	156,673	3.32	-.62	2,168	136,800	3.23	-2.91
Commercial bank	3,496	268,951	2.40	-.60	4,174	278,967	2.75	1.00	3,326	263,050	2.80	-1.50
Other	3,073	234,889	2.57	-4.16	3,359	206,506	2.97	-3.30	2,639	198,349	3.23	-.92
CCC crop loans ⁸	1,636	143,754	3.23	-16.04	1,262	70,203	4.77	-12.85	592	52,911	6.12	-3.71
Net worth	7,201	557,241	1.67	-2.18	8,551	559,645	1.73	.18	6,782	527,512	1.89	-2.31

Continued --

Appendix table 1--Selected characteristics of commercial farms, 1987-89 -- continued

Item	1987				1988				1989			
	Sample count	Expanded count	C.V. ¹	T statistic (1987-89)	Sample count	Expanded count	C.V.	T statistic (1987-88)	Sample count	Expanded count	C.V.	T statistic (1988-89)
	Number of farms reporting				Number of farms reporting				Number of farms reporting			
			Percent				Percent				Percent	
Capital investments and improvements:												
New investment:												
Machinery and equipment	5,891	458,090	1.86	-2.97	6,946	444,989	1.95	-1.08	5,459	421,141	2.15	-1.91
Autos and trucks	2,313	168,086	3.15	-2.94	2,898	164,468	3.27	-.48	2,193	146,640	3.41	-2.43
Tractors	1,390	96,849	4.23	1.34	1,743	96,165	4.33	-.12	1,528	105,206	4.47	1.44
Other farm machinery	3,794	304,764	2.33	-3.05	4,485	286,717	2.33	-1.85	3,550	273,838	2.63	-1.31
Other capital equipment	3,780	284,357	2.51	-2.29	4,543	276,041	2.57	-.83	3,517	260,655	2.88	-1.49
Construction/improvements	2,277	183,447	3.25	-4.40	2,334	152,355	3.69	-3.80	2,035	146,592	4.01	-.71
Building construction	939	80,191	5.07	-1.68	958	68,568	6.06	-2.00	946	69,971	6.43	.23
Other construction	1,663	131,821	3.90	-5.31	1,732	106,220	4.19	-3.76	1,390	96,044	4.53	-1.63
Total new capital investments	6,128	478,944	1.82	-3.47	7,208	466,204	1.90	-1.03	5,673	435,229	2.09	-2.44
Maintenance and repair:												
Motor vehicles	7,115	554,218	1.68	-2.61	8,395	549,451	1.75	-.36	6,668	519,016	1.89	-2.22
Farm buildings	2,790	243,111	2.76	-3.90	3,081	216,160	2.78	-2.99	2,655	206,741	3.14	-1.07
Other maintenance/repair	2,659	207,032	3.12	-1.01	3,751	263,565	2.76	5.81	2,644	197,766	3.30	-6.73
Total maintenance and repair	7,176	561,467	1.68	-2.71	8,483	555,844	1.74	-.42	6,713	524,549	1.88	-2.27

Continued

Appendix table 1--Selected characteristics of commercial farms, 1987-89 -- continued

Item	1987				1988				1989			
	Sample count		Expanded count		Sample count		Expanded count		Sample count		Expanded count	
	C.V. ¹		statistic (1987-89)		C.V.		statistic (1987-88)		C.V.		statistic (1988-89)	
	Number of farms reporting		Percent		Number of farms reporting		Percent		Number of farms reporting		Percent	
Farm labor and wages:												
Labor hours	7,267	569,222	1.68	-2.96	8,530	558,750	1.73	-0.77	6,723	528,302	1.89	-2.19
Operator	7,267	569,222	1.68	-3.08	8,524	558,403	1.73	-.80	6,703	526,686	1.90	-2.28
Unpaid	3,541	308,183	2.42	-.47	3,769	252,969	2.53	-5.62	3,626	303,136	2.60	4.95
Cash wages	5,469	373,083	1.99	-.32	6,500	356,532	2.06	-1.59	5,375	369,536	2.20	1.19
Operator and family	2,011	134,107	3.32	-2.22	2,239	114,886	3.58	-3.17	1,906	119,141	4.25	.65
Employees	5,004	328,188	2.16	.73	6,069	320,386	2.22	-.78	5,041	335,920	2.33	1.47
Contract labor	1,299	80,126	4.73	-.64	1,792	73,597	5.21	-1.21	1,378	76,622	5.13	.55
Fringe benefits:												
Cash	3,657	200,404	2.63	1.71	4,054	180,883	2.81	-2.66	3,921	213,815	2.72	4.26
Noncash	2,810	174,925	2.86	-4.89	1,620	108,225	4.14	-9.93	2,458	141,923	3.19	5.29

n.a. = Not available.

¹C.V. denotes coefficient of variation. ²Includes income from machine-hire, custom work, livestock grazing, land rental, contract production fees, outdoor recreation, and any other farm-related source. ³Includes livestock leasing, custom feed processing, bedding, and grazing. ⁴Includes supplies, registration fees, transportation, storage, and general business expenses. ⁵Defined as the value of home consumption and imputed rental value of farm dwellings owned by the farm operation. ⁶Includes accounts receivable, certificates of deposit, checking and savings balances, and any other financial assets of the farm business. ⁷The value of the operator's dwelling and any associated liabilities were included if the dwelling was located on the farm. ⁸Commodity Credit Corporation crop loans were excluded from both assets and liabilities.

Source: Farm Costs and Returns Survey, USDA.

Appendix table 2--Selected characteristics of commercial farms, percentages, 1987-89

Item	1987			1988			1989		
	Farms reporting	C.V. ¹	T statistic (1987-89)	Farms reporting	C.V.	T statistic (1987-88)	Farms reporting	C.V.	T statistic (1988-89)
<i>Percent</i>									
Region:									
Northeast	8.1	5.86	-2.62	7.1	5.66	-1.73	6.6	4.76	-0.83
Lake States	15.0	3.70	-.60	15.3	3.74	.46	14.5	4.16	-1.03
Corn Belt	26.8	2.72	-1.68	25.7	2.98	-1.04	25.0	3.18	-.65
Northern Plains	15.1	3.77	.91	16.5	3.84	1.67	15.9	4.42	-.64
Appalachian	6.9	6.57	-.70	6.8	6.63	-.02	6.4	7.19	-.67
Southeast	4.2	8.90	.23	4.6	9.71	.61	4.4	9.77	-.36
Delta	4.2	7.89	-1.91	3.4	9.91	-1.67	3.3	10.11	-.22
Southern Plains	6.8	7.76	1.63	8.2	7.13	1.84	8.1	7.43	-.17
Mountain	6.6	6.69	.75	6.0	5.29	-1.16	7.1	5.37	2.17
Pacific	6.4	6.15	3.03	6.4	5.70	.05	8.8	8.01	3.05
Organization:									
Corporate	5.6	5.85	1.43	5.9	5.93	.76	6.3	6.52	.71
Family corporation	n.a.	n.a.	n.a.	4.9	6.24	n.a.	5.3	6.91	.84
Other corporation	n.a.	n.a.	n.a.	1.0	17.35	n.a.	1.0	19.35	-.06
Partnership	11.9	4.61	-.57	11.4	4.85	-.56	11.4	5.80	-.06
Individual	82.5	.76	-.32	82.6	.78	.07	82.2	.92	-.38
Tenancy:									
Full tenant	15.8	4.15	-1.62	13.3	5.11	-2.59	14.2	5.06	.88
Part tenant	56.3	1.69	2.90	60.7	1.57	3.25	60.3	1.70	-.23
Full owner	27.9	3.29	-1.89	26.0	3.36	-1.52	25.4	3.66	-.43
Land use:									
Land and buildings owned	86.3	.71	1.45	88.2	.74	2.16	87.6	.78	-.65
Land rented in	72.1	1.27	1.88	74.0	1.18	1.52	74.5	1.25	.42
Cash rented	51.6	1.85	2.89	56.2	1.67	3.44	55.6	1.82	-.43
Share rented	35.0	2.46	.08	33.8	2.46	-.98	35.1	2.56	1.04
Free of charge	5.8	8.67	.75	4.6	8.53	-2.00	6.5	10.35	2.46
Land rented out	8.5	6.60	.67	9.8	6.02	1.55	9.1	6.92	-.81
Pasture	62.3	1.42	-.52	59.4	1.52	-2.31	61.6	1.59	1.67
Conservation tillage	28.6	2.92	-5.20	27.3	2.90	-1.16	22.6	3.60	-4.16
Removed from production	65.5	1.41	-6.06	64.2	1.45	-1.02	57.1	1.81	-5.07
Long-term	6.8	7.14	4.37	7.9	6.44	1.60	10.1	5.73	2.82
Government programs	63.5	1.46	-8.24	60.7	1.54	-2.08	52.2	1.94	-6.21
Summer fallow	9.1	4.60	-.79	10.2	5.38	1.52	8.6	5.48	-2.14
Total acres operated	100.0	0	0	100.0	0	0	100.0	0	0

Continued --

Appendix table 2--Selected characteristics of commercial farms, percentages, 1987-89 -- continued

Item	1987			1988			1989		
	Farms reporting	C.V. ¹	T statistic (1987-89)	Farms reporting	C.V.	T statistic (1987-88)	Farms reporting	C.V.	T statistic (1988-89)
<i>Percent</i>									
Acreage class:									
1-49 acres	6.3	8.38	-0.09	5.7	8.72	-0.92	6.2	11.73	0.66
50-99 acres	3.4	9.65	.18	3.7	9.62	.60	3.5	12.51	-.34
100-139 acres	3.7	10.22	.10	4.1	9.81	.69	3.8	10.68	-.57
140-179 acres	5.1	8.99	.68	4.6	8.93	-.93	5.6	9.36	1.57
180-219 acres	5.1	8.35	-2.43	5.1	10.02	.02	3.7	10.47	-2.19
220-259 acres	5.8	8.34	-2.22	4.8	8.42	-1.48	4.4	9.37	-.82
260-499 acres	23.0	3.47	-.71	24.1	3.39	.92	22.2	3.86	-1.59
500-999 acres	23.8	3.38	.43	23.0	3.36	-.72	24.3	3.46	1.14
1,000-1,999 acres	14.1	3.93	1.23	14.6	4.26	.54	15.2	4.51	.68
2,000 or more	9.5	4.59	2.30	10.3	4.99	1.12	11.0	4.45	1.07
Sales class:									
\$500,000 or more	6.0	5.36	.94	6.2	4.93	.45	6.5	5.54	.54
\$250,000 - 499,999	13.3	4.39	-.75	12.5	3.98	-1.01	12.7	4.20	.24
\$100,000 - 249,999	36.2	2.43	.05	37.0	2.42	.62	36.3	2.51	-.56
\$40,000 - 99,999	44.5	2.14	.06	44.3	2.19	-.15	44.5	2.34	.20
Farm type:									
Cash grains	33.7	2.56	-1.51	31.9	2.65	-1.54	31.8	2.78	-.01
Tobacco	1.5	11.58	1.54	2.0	12.06	1.60	2.0	12.68	.00
Cotton	3.0	7.86	-1.64	2.4	10.81	-1.70	2.5	10.11	.10
Other field crops	4.1	9.13	.28	4.1	8.73	.04	4.3	11.08	.25
Vegetable, fruit, or nuts	4.4	7.23	1.60	4.8	7.77	.73	5.2	7.77	.85
Nursery	1.9	16.59	-.17	2.5	13.39	1.25	1.8	10.80	-1.65
Beef, hog, or sheep	24.4	3.33	1.56	28.1	3.01	3.15	26.4	3.73	-1.32
Poultry	3.5	13.51	-.60	2.5	16.07	-1.51	3.0	21.28	.61
Dairy	21.3	3.45	-.31	20.8	3.46	-.53	21.0	3.15	.24
Other livestock	2.1	13.77	-.47	.9	22.05	-3.30	2.0	14.44	2.86
Operator's occupation:									
Farming	88.7	.78	1.78	90.1	.66	1.52	90.4	.70	.32
Hired farm manager	1.6	14.21	-.12	1.5	14.27	-.62	1.6	15.80	.47
Other occupation	9.6	6.95	-1.83	8.4	6.72	-1.43	8.0	7.41	-.47

Continued --

Appendix table 2--Selected characteristics of commercial farms, percentages, 1987-89 -- continued

Item	1987			1988			1989		
	Farms reporting	C.V. ¹	T statistic (1987-89)	Farms reporting	C.V.	T statistic (1987-88)	Farms reporting	C.V.	T statistic (1988-89)
<i>Percent</i>									
Operator's age:									
Younger than 25 years	1.1	18.58	-0.66	1.1	21.97	0.16	0.9	28.16	-0.75
25 - 34 years	15.4	4.61	-.68	15.1	5.24	-.24	14.6	5.76	-.42
35 - 44 years	23.9	3.36	-.52	22.8	3.37	-.95	23.3	3.49	.41
45 - 54 years	25.2	3.18	-.87	24.0	3.39	-1.02	24.2	3.70	.09
55 - 59 years	12.2	4.45	-.01	12.9	4.62	.95	12.2	5.02	-.91
60 - 64 years	11.3	5.08	.81	12.5	4.61	1.50	11.9	5.05	-.65
65 - 69 years	6.1	8.66	2.26	6.2	7.48	.15	7.8	7.53	2.24
70 years or older	5.0	8.95	.23	5.3	8.20	.53	5.2	9.26	-.29
Operator's education:									
Less than high school	17.0	4.61	-.47	16.6	4.44	-.39	16.5	4.31	-.07
High school	45.2	2.06	-.92	43.3	2.13	-1.40	43.9	2.38	.38
Some college	22.9	3.50	-.09	23.9	3.28	.89	22.8	3.66	-.96
College	11.9	4.86	1.55	12.5	4.54	.82	13.3	5.60	.86
Graduate school	3.1	10.88	.91	3.6	9.48	1.09	3.5	9.07	-.21
Farm business income statement:									
Gross cash income	99.7	.27	-.12	99.9	.08	.77	99.6	.20	-1.19
Livestock sales	69.4	1.26	-.45	69.8	1.19	.34	68.8	1.34	-.79
Crop sales (including net CCC loans)	75.7	1.13	-2.33	74.1	1.15	-1.30	72.6	1.38	-1.15
Government payments	68.3	1.35	.26	69.2	1.30	.69	68.6	1.49	-.39
Other farm-related income ²	78.8	1.03	-4.14	76.4	1.10	-2.06	73.6	1.32	-2.21
Less:									
Cash expenses	100.0	.01	.40	100.0	.01	-.54	100.0	.00	.90
Variable expenses	100.0	.01	.46	99.9	.03	-1.65	100.0	.01	1.88
Livestock purchases	48.1	1.95	.37	48.6	1.93	.35	48.7	2.15	.04
Feed	70.0	1.19	-.36	70.0	1.18	.02	69.5	1.33	-.38
Veterinary services and supplies	67.7	1.29	-.33	67.5	1.25	-.18	67.3	1.41	-.16
Other livestock-related expenses ³	19.2	3.91	5.58	19.0	3.97	-.13	25.8	3.61	5.68
Seed and plants	88.4	.80	-1.23	87.7	.79	-.67	87.0	1.00	-.65
Fertilizer and chemicals	92.0	.68	-2.29	91.0	.68	-1.13	89.5	.95	-1.36
Labor	71.1	1.29	2.72	68.9	1.30	-1.76	74.7	1.27	4.47
Fuels and oils	98.6	.25	2.26	99.1	.18	1.76	99.2	.17	.60
Repairs and maintenance	98.7	.21	.27	98.7	.22	-.05	98.8	.25	.32
Machine-hire and custom work	48.5	1.93	4.74	54.8	1.72	4.71	55.2	1.89	.27
Utilities	96.3	.35	1.27	97.2	.38	1.86	97.0	.47	-.34
Other variable expenses ⁴	99.5	.17	-.99	99.8	.05	1.75	99.2	.22	-2.53
Fixed expenses	99.6	.11	.21	99.9	.04	2.97	99.6	.15	-2.02
Real estate and property taxes	89.7	.62	-.90	90.5	.68	.98	88.9	.74	-1.76

Continued --

Appendix table 2--Selected characteristics of commercial farms, percentages, 1987-89 -- continued

Item	1987			1988			1989		
	Farms reporting	C.V. ¹	T statistic (1987-89)	Farms reporting	C.V.	T statistic (1987-88)	Farms reporting	C.V.	T statistic (1988-89)
<i>Percent</i>									
Farm business income statement -- continued:									
Interest on real estate debt	79.0	1.06	-0.37	80.4	0.91	1.25	78.6	1.14	-1.60
Insurance premiums	96.0	.42	2.67	97.0	.45	1.67	97.3	.32	.68
Rent and lease payments	58.3	1.66	2.75	62.3	1.48	3.01	62.1	1.62	-.15
Equals: Net cash farm income	100.0	0	0	100.0	.01	-1.00	100.0	0	1.00
Less:									
Depreciation	89.8	.79	4.74	89.3	.68	-.61	94.0	.56	5.87
Labor, noncash benefits	31.2	2.64	-3.98	24.6	3.20	-5.72	26.6	3.05	1.70
Plus:									
Value of inventory change	72.0	1.19	1.95	70.8	1.17	-.99	74.4	1.15	2.97
Nonmoney income ⁵	82.5	.87	-1.89	83.4	.85	.86	80.4	1.02	-2.71
Equals: Net farm income	100.0	0	0	100.0	.01	-1.01	100.0	0	1.01
Farm business balance sheet:									
Farm assets	99.9	.07	1.78	100.0	.02	1.57	100.0	.01	.65
Current assets	99.5	.13	-.04	99.7	.11	.83	99.5	.15	-.81
Livestock inventory	67.2	1.31	-13.66	67.1	1.24	-.08	48.5	2.16	-13.90
Crop inventory	72.1	1.19	2.23	63.2	1.44	-7.17	74.9	1.22	9.13
Purchased inputs	63.5	1.47	-4.12	59.3	1.62	-3.14	57.8	1.77	-1.07
Prepaid insurance	96.0	.42	2.67	97.0	.45	1.67	97.3	.32	.68
Other assets ⁶	88.2	.66	-8.53	81.9	.89	-6.77	79.5	1.07	-2.19
Noncurrent assets	99.7	.08	-2.16	99.4	.11	-2.12	99.3	.17	-.57
Investments in cooperatives	n.a.	n.a.	n.a.	28.1	2.91	n.a.	29.7	2.95	-1.35
Land and buildings ⁷	87.4	.68	4.06	90.0	.70	3.01	90.7	.63	.88
Operator dwelling	73.0	1.14	-1.26	74.7	1.12	1.47	71.4	1.30	-2.65
Farm equipment	96.6	.35	-.44	96.8	.28	.43	96.4	.36	-.89
Breeding animals	67.2	1.31	-8.46	67.1	1.24	-.08	55.9	1.80	-8.58
Farm operation liabilities									
Current liabilities	98.8	.19	.95	99.2	.13	1.89	99.0	.21	-.66
Notes payable within 1 year	57.4	1.64	-23.26	27.4	3.34	-22.92	26.4	3.59	-.75
Current portion of term debt	73.7	1.18	-4.65	67.0	1.34	-5.37	67.5	1.49	.39
Accrued interest	76.8	1.11	-1.74	75.6	1.04	-1.04	74.6	1.27	-.82
Accounts payable	96.6	.37	.53	97.5	.26	2.03	96.8	.36	-1.44
Noncurrent liabilities	73.7	1.18	-4.65	67.0	1.34	-5.37	67.5	1.49	.39
Non-real estate	n.a.	n.a.	n.a.	44.9	2.10	n.a.	47.6	2.16	1.92
Real estate	n.a.	n.a.	n.a.	42.0	2.21	n.a.	39.1	2.60	-2.06

Continued --

Appendix table 2--Selected characteristics of commercial farms, percentages, 1987-89 -- continued

Item	1987			1988			1989		
	Farms reporting	C.V. ¹	T statistic (1987-89)	Farms reporting	C.V.	T statistic (1987-88)	Farms reporting	C.V.	T statistic (1988-89)
<i>Percent</i>									
Farm business balance sheet -- continued:									
By lender:									
Farmers Home Administration	19.7	3.61	-0.87	17.8	4.06	-1.82	18.8	4.03	0.91
FCS	28.9	2.72	-2.62	28.0	2.96	-.79	25.9	3.12	-1.78
Commercial bank	48.2	1.93	1.17	49.8	1.93	1.20	49.9	2.07	.01
Other	42.1	2.19	-3.34	36.9	2.45	-4.06	37.6	2.66	.52
CCC crop loans ⁸	25.8	3.04	-16.01	12.5	4.66	-13.54	10.0	5.92	-3.02
Net worth	100.0	.04	1.00	100.0	0	.93	100.0	0	.90
Capital investments and improvements:									
New investment:									
Machinery and equipment	80.5	.92	-1.13	79.2	.99	-1.17	79.2	1.04	0
Autos and trucks	29.5	2.83	-1.63	29.3	2.88	-.21	27.6	3.11	-1.41
Tractors	17.0	4.00	2.63	17.1	4.04	.11	19.8	4.08	2.51
Other farm machinery	53.5	1.72	-1.47	51.0	1.85	-1.90	51.5	2.00	.33
Other capital equipment	50.0	1.88	-.66	49.1	1.87	-.62	49.0	2.13	-.08
Construction/improvements	32.2	2.75	-3.58	27.1	3.17	-4.13	27.6	3.45	.35
Building construction	14.1	4.75	-.90	12.2	5.66	-1.96	13.2	5.98	.91
Other construction	23.2	3.52	-4.56	18.9	3.86	-3.88	18.1	4.22	-.80
Total new capital investments	84.1	.81	-2.17	83.0	.88	-1.15	81.9	.97	-1.04
Maintenance and repair:									
Motor vehicles	97.4	.34	.55	97.8	.27	1.07	97.6	.36	-.43
Farm buildings	42.7	2.18	-2.80	38.5	2.34	-3.27	38.9	2.57	.30
Other maintenance and repair	36.4	2.56	.60	46.9	2.05	7.87	37.2	2.72	-6.96
Total maintenance and repair	98.6	.21	.09	99.0	.19	1.14	98.7	.25	-.92
Farm labor and wages:									
Labor hours	100.0	.00	-5.29	99.5	.12	-4.62	99.4	.12	-.58
Operator	100.0	.00	-6.08	99.4	.12	-4.93	99.1	.15	-1.74
Unpaid	54.1	1.73	2.07	45.0	2.07	-6.90	57.0	1.81	8.63
Cash wages	65.5	1.44	2.89	63.5	1.47	-1.56	69.5	1.43	4.42
Operator and family	23.6	3.12	-1.01	20.5	3.44	-3.05	22.4	3.86	1.76
Employees	57.7	1.66	3.96	57.0	1.65	-.46	63.2	1.61	4.44
Contract labor	14.1	4.46	.36	13.1	4.90	-1.09	14.4	4.79	1.39
Fringe benefits:									
Cash	35.2	2.37	3.96	32.2	2.57	-2.56	40.2	2.37	6.36
Noncash	30.7	2.65	-3.51	19.3	3.83	-10.43	26.7	3.03	6.78

n.a. = Not available.

¹C.V. denotes coefficient of variation. ²Includes income from machine-hire, custom work, livestock grazing, land rental, contract production fees, outdoor recreation, and any other farm-related source. ³Includes livestock leasing, custom feed processing, bedding, grazing. ⁴Includes supplies, registration fees, transportation, storage, and general business expenses. ⁵Defined as the value of home consumption and imputed rental value of farm dwellings owned by the farm operation. ⁶Includes accounts receivable, certificates of deposit, checking and savings balances, and any other financial assets of the farm business. ⁷The value of the operator's dwelling and any associated liabilities were included if the dwelling was located on the farm. ⁸Commodity Credit Corporation crop loans were excluded from both assets and liabilities.

Source: Farm Costs and Returns Survey, USDA.

Appendix table 3--Total acres operated by commercial farms reporting selected characteristics, 1987-89

Item	1987			1988			1989		
			T statistic (1987-89)			T statistic (1987-88)			T statistic (1988-89)
	Total	C.V. ¹		Total	C.V.		Total	C.V.	
	Acres	----	Percent ----	Acres	----	Percent ----	Acres	----	Percent ----
Region:									
Northeast	15,790,866	6.13	-2.94	13,806,047	5.65	-1.60	12,497,514	4.52	-1.36
Lake States	35,857,921	4.39	-.40	42,383,437	7.23	1.89	34,927,184	4.90	-2.12
Corn Belt	87,249,927	3.98	-2.69	77,507,935	3.33	-2.25	75,110,265	3.85	-.62
Northern Plains	129,835,622	5.50	.37	150,467,647	6.22	1.75	134,020,654	6.46	-1.29
Appalachian	19,107,597	7.11	.23	20,284,627	9.01	.52	19,605,962	8.46	-.27
Southeast	18,141,489	11.87	.20	19,584,514	13.64	.42	18,898,257	16.26	-.17
Delta	18,387,096	5.95	-2.10	17,640,253	7.25	-.44	15,273,054	6.55	-1.46
Southern Plains	81,624,075	8.85	1.38	121,782,220	12.96	2.31	112,620,031	18.96	-.35
Mountain	127,528,173	10.62	.04	123,369,894	8.20	-.25	128,275,487	10.87	.28
Pacific	32,906,823	9.37	4.80	51,773,036	17.10	2.01	67,359,171	9.62	1.42
All regions	566,429,587	3.15	1.56	638,599,610	3.66	2.45	618,587,580	4.55	-.55
Organization:									
Corporate	74,530,472	13.21	1.18	87,570,836	11.83	.91	92,309,595	12.45	.31
Family corporation	n.a.	n.a.	n.a.	71,512,807	13.47	n.a.	76,896,663	12.86	.39
Other corporation	n.a.	n.a.	n.a.	16,058,029	25.55	n.a.	15,412,931	39.49	-.09
Partnership	107,005,648	10.29	-.84	123,444,890	11.09	.94	93,880,041	11.80	-1.68
Individual	384,512,556	2.92	1.75	424,548,534	3.97	1.98	430,174,225	5.49	.19
Tenancy:									
Full tenant	82,565,128	7.07	.42	73,141,219	9.46	-1.04	88,025,982	13.31	1.09
Part tenant	374,156,891	3.23	1.37	460,167,893	4.51	3.58	402,001,439	4.05	-2.21
Full owner	109,707,567	11.43	.79	105,290,498	9.29	-.28	128,560,159	15.90	1.03

Continued --

Appendix table 3--Total acres operated by commercial farms reporting selected characteristics, 1987-89 -- continued

Item	1987			1988			1989		
			T statistic (1987-89)			T statistic (1987-88)			T statistic (1988-89)
	Total	C.V. ¹		Total	C.V.		Total	C.V.	
	Acres	----- Percent -----		Acres	----- Percent -----		Acres	----- Percent -----	
Acreage class:									
1-49 acres	695,097	10.77	-0.38	655,560	12.27	-0.36	652,745	12.70	-0.02
50-99 acres	1,440,903	9.92	-.28	1,528,976	10.15	.42	1,376,493	12.93	-.65
100-139 acres	2,494,189	10.43	-.22	2,768,283	10.14	.72	2,410,948	11.11	-.92
140-179 acres	4,650,670	9.24	.20	4,111,714	9.21	-.94	4,778,253	9.68	1.12
180-219 acres	5,826,669	8.52	-2.93	5,719,533	10.41	-.14	3,926,374	10.58	-2.47
220-259 acres	7,909,437	8.58	-2.81	6,513,098	8.65	-1.58	5,507,648	9.43	-1.31
260-499 acres	48,766,191	3.84	-2.16	51,079,199	3.82	.85	43,077,837	4.29	-2.98
500-999 acres	94,921,214	3.66	-.85	91,300,841	3.58	-.76	90,746,778	3.83	-.12
1,000-1,999 acres	110,653,847	4.00	-.09	111,749,036	4.40	.17	110,023,247	4.57	-.25
2,000 or more	289,071,371	5.97	2.06	364,170,330	6.28	2.62	356,342,435	7.78	-.22
Sales class:									
\$500,000 or more	76,661,922	10.04	1.88	136,616,655	10.51	3.68	106,682,339	13.15	-1.49
\$250,000 - 499,999	114,703,472	8.73	.32	118,313,415	8.12	.26	119,017,298	7.72	.05
\$100,000 - 249,999	208,655,220	4.34	.49	218,252,620	5.48	.64	214,950,563	4.30	-.22
\$40,000 - 99,999	166,408,972	6.29	.48	165,416,921	7.23	-.06	177,937,379	12.05	.51
Farm type:									
Cash grains	190,591,900	4.94	-.65	178,055,697	3.66	-1.10	183,483,499	2.98	.64
Tobacco	4,008,296	10.40	.89	6,022,475	14.75	2.05	4,632,238	12.10	-1.32
Cotton	18,312,123	8.63	-.13	16,580,712	9.86	-.76	17,947,699	13.45	.47
Other field crops	20,455,999	10.21	-.53	26,996,640	15.38	1.41	18,758,887	13.04	-1.71
Vegetable, fruit, or nuts	8,639,489	11.70	.06	8,935,653	10.52	.21	8,716,894	8.76	-.18
Nursery	1,239,766	42.13	-.49	1,224,715	24.21	-.03	953,729	27.62	-.68
Beef, hog, or sheep	259,479,862	5.84	1.57	348,854,917	6.42	3.31	309,086,454	8.94	-1.12
Poultry	2,352,695	14.66	-.26	2,045,885	20.58	-.56	2,153,470	32.37	.13
Dairy	45,568,014	4.40	-.51	47,085,076	4.72	.51	44,232,284	3.77	-1.03
Other livestock	15,781,442	18.50	3.81	2,797,841	31.27	-4.26	28,622,425	5.87	13.64

Continued --

Appendix table 3--Total acres operated by commercial farms reporting selected characteristics, 1987-89 -- continued

Item	1987			1988			1989		
	T		statistic (1987-89)	T		statistic (1987-88)	T		statistic (1988-89)
	Total	C.V. ¹		Acres	Percent ----		Total	C.V.	
Operator's occupation:									
Farming	512,864,331	3.13	0.46	560,321,249	3.62	1.83	524,623,262	3.82	-1.25
Hired farm manager	22,133,671	33.65	-.55	26,964,949	28.95	.45	17,500,251	22.50	-1.08
Other occupation	31,431,585	11.57	2.24	51,144,341	14.12	2.44	76,463,946	25.89	1.20
Operator's age:									
Younger than 25 years	2,415,560	22.13	1.49	2,656,221	26.03	.28	7,529,308	45.09	1.41
25 - 34 years	65,899,769	7.77	-.91	68,778,742	11.82	.30	59,596,651	7.75	-.98
35 - 44 years	141,627,504	9.11	-1.35	152,750,159	8.02	.63	121,414,721	6.32	-2.17
45 - 54 years	133,968,722	5.61	.71	161,886,891	6.87	2.08	144,211,353	8.46	-1.07
55 - 59 years	74,237,387	5.62	.69	70,146,698	7.41	-.61	88,300,991	22.55	.88
60 - 64 years	64,236,053	7.03	3.58	80,628,234	10.84	1.67	108,073,073	10.54	1.91
65 - 69 years	33,587,539	9.77	2.56	41,835,229	13.48	1.26	50,361,540	11.28	1.07
70 years or older	50,457,052	15.61	-1.10	59,917,436	15.94	.76	39,099,942	17.12	-1.78
Operator's education:									
Less than high school	77,632,877	8.64	-.28	65,147,103	7.61	-1.50	75,122,726	8.12	1.27
High school	222,019,145	3.86	-1.02	228,318,157	5.44	.42	208,979,966	4.53	-1.24
Some college	149,574,288	7.62	.28	176,503,229	7.88	1.50	154,435,790	8.30	-1.17
College	96,256,885	9.99	1.60	140,317,592	9.12	2.75	136,162,049	16.86	-.16
Graduate school	20,946,392	17.23	4.13	28,085,262	16.30	1.22	43,884,166	9.63	2.54

n.a. = Not available.

¹C.V. denotes coefficient of variation.

Appendix table 4--Average acres operated by commercial farms reporting selected characteristics, 1987-89

Item	1987			1988			1989		
			T statistic (1987-89)			T statistic (1987-88)			T statistic (1988-89)
	Mean	C.V. ¹		Mean	C.V.		Mean	C.V.	
	<i>Acres</i>	<i>--- Percent ---</i>		<i>Acres</i>	<i>--- Percent ---</i>		<i>Acres</i>	<i>--- Percent ---</i>	
Region:									
Northeast	341	4.99	0.60	348	5.17	0.29	354	4.06	0.26
Lake States	421	3.37	1.53	492	6.91	1.93	454	3.57	-1.01
Corn Belt	573	2.86	-.30	537	2.42	-1.68	566	2.49	1.49
Northern Plains	1,514	4.50	.60	1,625	5.10	1.03	1,587	6.37	-.29
Appalachian	490	6.03	1.73	528	7.82	.75	576	6.91	.83
Southeast	756	11.61	.41	762	13.41	.05	817	14.66	.35
Delta	771	6.46	1.18	923	6.94	1.88	871	7.93	-.55
Southern Plains	2,115	10.16	.97	2,634	12.99	1.29	2,620	18.13	-.02
Mountain	3,369	10.82	.06	3,652	8.05	.60	3,403	11.06	-.52
Pacific	908	10.21	3.01	1,442	15.17	2.25	1,437	10.39	-.02
All regions	995	3.05	2.80	1,137	3.50	2.83	1,164	4.47	.41
Organization:									
Corporate	2,347	13.29	.86	2,622	11.93	.62	2,742	12.19	.26
Family corporation	n.a.	n.a.	n.a.	2,595	13.51	n.a.	2,724	12.68	.26
Other corporation	n.a.	n.a.	n.a.	2,753	26.36	n.a.	2,834	37.88	.06
Partnership	1,584	9.76	-.13	1,922	10.26	1.35	1,551	12.09	-1.36
Individual	819	2.66	2.94	915	3.67	2.42	984	5.29	1.12
Tenancy:									
Full tenant	919	6.50	1.51	976	9.35	.53	1,165	13.03	1.07
Part tenant	1,168	3.05	1.42	1,350	4.25	2.71	1,253	3.86	-1.30
Full owner	690	11.05	1.55	721	8.61	.31	950	15.76	1.42
Acreage class:									
1-49 acres	19	6.19	.21	21	5.83	.78	20	6.65	-.54
50-99 acres	75	1.54	-.18	74	1.81	-.37	75	2.87	.08
100-139 acres	117	1.07	1.19	120	.85	1.44	120	1.25	-.01
140-179 acres	159	.55	.96	160	.56	1.02	160	.54	-.08
180-219 acres	199	.42	-.78	198	.63	-.97	198	.65	.15
220-259 acres	241	.39	-2.57	240	.41	-.81	237	.41	-1.74
260-499 acres	372	.73	-1.80	377	.72	1.45	365	.76	-3.23
500-999 acres	700	.79	.24	706	.72	.81	701	.78	-.57
1,000-1,999 acres	1,375	.74	-.99	1,363	.85	-.76	1,360	.87	-.23
2,000 or more	5,337	5.15	1.50	6,314	4.91	2.36	6,080	6.76	-.45
Sales class:									
\$500,000 or more	2,244	10.16	1.87	3,922	10.61	3.54	3,109	12.92	-1.41
\$250,000 - 499,999	1,513	8.51	1.35	1,679	7.32	.93	1,760	7.39	.45
\$100,000 - 249,999	1,012	4.09	1.72	1,050	4.82	.58	1,114	3.84	.97
\$40,000 - 99,999	657	5.70	.99	665	6.58	.14	751	11.64	.88

Continued --

Appendix table 4--Average acres operated by commercial farms reporting selected characteristics, 1987-89 -- continued

Item	1987			1988			1989		
			T statistic (1987-89)			T statistic (1987-88)			T statistic (1988-89)
	Mean	C.V. ¹		Mean	C.V.		Mean	C.V.	
	Acres	--- Percent ---		Acres	--- Percent ---		Acres	--- Percent ---	
Farm type:									
Cash grains	993	4.44	1.79	995	2.92	0.04	1,084	2.29	2.32
Tobacco	466	6.71	-.61	540	11.23	1.09	439	7.15	-1.48
Cotton	1,059	6.27	2.43	1,213	7.82	1.32	1,367	7.87	1.07
Other field crops	878	6.06	-.43	1,168	13.98	1.69	828	12.61	-1.76
Vegetable, fruit, or nuts	344	11.63	-.66	333	9.51	-.21	313	8.12	-.51
Nursery	115	42.10	-.32	88	21.84	-.51	98	23.74	.32
Beef, hog, or sheep	1,867	5.75	1.52	2,208	5.94	2.01	2,201	8.76	-.03
Poultry	119	11.59	.34	143	18.37	.83	135	33.60	-.16
Dairy	376	3.12	1.30	404	3.89	1.43	396	2.64	-.40
Other livestock	1,295	18.83	4.67	525	33.92	-2.55	2,760	7.16	8.40
Operator's occupation:									
Farming	1,016	2.99	1.50	1,107	3.44	1.88	1,092	3.72	-.27
Hired farm manager	2,361	33.72	-.34	3,304	30.54	.73	2,050	23.05	-1.13
Other occupation	573	10.08	2.61	1,086	13.53	3.25	1,798	25.89	1.46
Operator's age:									
Younger than 25 years	400	16.34	1.89	425	16.34	.26	1,658	39.99	1.85
25 - 34 years	753	7.05	.17	810	10.52	.57	767	7.61	-.42
35 - 44 years	1,042	8.77	-.57	1,192	7.89	1.14	981	5.89	-1.91
45 - 54 years	934	5.37	1.82	1,199	6.23	2.95	1,123	8.11	-.64
55 - 59 years	1,072	4.76	.98	966	7.03	-1.26	1,367	21.73	1.32
60 - 64 years	1,002	6.55	3.73	1,150	10.04	1.12	1,703	10.35	2.62
65 - 69 years	974	8.93	1.49	1,209	13.20	1.29	1,208	10.85	0
70 years or older	1,769	14.66	-.99	1,995	15.27	.57	1,426	16.05	-1.50
Operator's education:									
Less than high school	802	7.65	.60	699	6.33	-1.36	855	7.67	1.98
High school	864	3.61	.67	938	5.01	1.32	896	4.09	-.70
Some college	1,149	7.20	.98	1,317	7.39	1.31	1,276	7.76	-.29
College	1,427	10.02	1.42	1,996	9.04	2.47	1,923	16.65	-.20
Graduate school	1,184	17.13	3.64	1,376	15.44	.65	2,336	10.39	2.98

n.a. = Not available.

¹C.V. denotes coefficient of variation.

Appendix table 5--Land and land use in commercial farms, 1987-89

Item	1987			1988			1989		
	Total	C.V. ¹	T statistic (1987-89)	Total	C.V.	T statistic (1987-88)	Total	C.V.	T statistic (1988-89)
	Acres	Percent	----	Acres	Percent	----	Acres	Percent	----
Land and buildings owned	296,691,465	4.83	1.61	339,395,050	4.51	2.04	339,492,195	6.57	0
Land rented in	282,394,071	3.27	1.15	318,893,402	4.28	2.22	302,929,799	5.05	-.78
Cash rented	176,541,445	4.84	1.33	215,713,798	6.02	2.52	199,289,072	7.43	-.83
Share rented	100,082,471	3.19	-.31	98,660,205	3.88	-.29	98,653,820	3.27	0
Free of charge	5,770,156	21.66	-.47	4,519,399	18.50	-.83	4,986,907	22.03	.34
Land rented out	12,655,950	8.99	3.84	19,691,523	12.24	2.64	22,038,230	9.80	.73
Pasture	325,552,323	7.54	1.14	380,966,025	7.61	1.46	524,731,796	32.83	.82
Conservation tillage	41,826,321	4.92	-2.53	42,984,535	4.27	.42	35,228,449	4.57	-3.18
Land removed from production	66,101,325	5.80	-3.62	62,371,880	3.33	-.86	50,317,766	4.13	-4.10
Long-term	9,123,692	12.29	3.63	10,430,847	7.84	.94	16,282,168	9.98	3.22
Government programs	41,554,568	3.04	-14.69	36,429,548	2.68	-3.21	19,742,234	3.95	-13.37
Summer fallow	15,423,065	13.14	-.52	15,511,485	7.88	.04	14,293,365	5.14	.85
Total acres operated	566,429,587	3.15	1.56	638,599,610	3.66	2.45	618,587,580	4.55	.55
	Mean per reporting farm	Percent	----	Mean per reporting farm	Percent	----	Mean per reporting farm	Percent	----
Land and buildings owned	604	4.68	2.27	685	4.33	1.97	729	6.49	.79
Land rented in	688	3.14	1.76	767	4.06	2.08	765	4.91	.05
Cash rented	601	4.75	1.29	683	5.79	1.68	674	7.24	.15
Share rented	502	2.45	1.38	519	3.15	.83	528	2.77	.43
Free of charge	174	20.31	-.60	176	17.25	.06	145	22.09	.71
Land rented out	261	7.84	4.06	359	11.98	2.05	457	9.54	1.60
Pasture	918	7.51	1.28	1,142	7.42	2.05	1,602	33.00	.86
Conservation tillage	257	4.10	2.47	280	3.29	1.70	293	3.62	.94
Land removed from production	177	5.61	-.97	173	3.03	-.38	166	3.89	-.88
Long-term	235	9.98	1.96	234	7.00	-.05	303	8.27	2.30
Government programs	115	2.66	-10.93	107	2.27	-2.11	71	3.64	-10.03
Summer fallow	296	12.48	.37	271	6.57	-.62	311	5.24	1.67
Total acres operated	995	3.05	2.80	1,137	3.50	2.84	1,164	4.47	.41

¹C.V. denotes coefficient of variation.

Appendix table 6--Farm business income statement for commercial farms, 1987-89

Item	1987			1988			1989		
	Total	C.V. ¹	T statistic (1987-89)	Total	C.V.	T statistic (1987-88)	Total	C.V.	T statistic (1988-89)
	Dollars	----	Percent	Dollars	----	Percent	Dollars	----	Percent
Gross cash income	94,868,542,900	2.49	2.53	98,892,459,827	2.14	1.27	103,638,333,638	2.45	1.44
Livestock sales	44,367,041,834	3.41	1.44	48,492,002,350	3.02	1.96	47,565,405,349	3.41	-42
Crop sales (including net CCC loans)	34,984,257,511	4.01	4.05	36,840,717,690	3.42	.99	43,633,464,573	3.70	3.32
Government payments	9,773,554,013	2.48	-13.33	8,124,815,165	2.28	-5.40	5,899,914,780	2.72	-9.08
Other farm-related income ²	5,743,689,541	10.05	.81	5,434,924,623	10.22	-.39	6,539,548,935	12.11	1.14
Less:									
Cash expenses	73,231,658,571	2.73	1.99	77,563,597,486	2.21	1.65	78,840,192,325	2.51	.49
Variable expenses	58,001,491,435	3.05	2.35	62,393,675,025	2.44	1.88	63,894,013,110	2.79	.64
Livestock purchases	9,029,043,106	6.68	1.36	11,182,118,511	7.41	2.10	10,703,374,506	10.02	-35
Feed	11,335,458,434	5.88	.71	12,092,763,903	3.83	.93	11,890,470,982	3.47	-33
Veterinary services and supplies	1,135,589,086	4.89	1.62	1,104,948,721	3.43	-.46	1,244,168,037	3.04	2.60
Other livestock-related expenses ³	472,418,871	10.84	1.43	641,495,906	14.00	1.64	628,499,655	15.37	-10
Seed and plants	2,917,996,246	4.54	1.48	3,055,113,631	4.72	.70	3,166,905,240	3.30	.63
Fertilizer and chemicals	8,115,243,897	2.45	3.77	8,665,501,121	2.49	1.88	9,263,197,672	2.49	1.89
Labor	8,891,688,541	5.56	1.22	8,931,544,123	4.64	.06	9,744,956,747	5.05	1.26
Fuels and oils	3,503,846,289	2.33	.23	3,528,456,935	1.96	.23	3,529,794,705	2.15	.01
Repairs and maintenance	5,030,695,455	2.42	3.06	5,183,483,813	2.04	.95	5,560,199,496	2.22	2.32
Machine-hire and custom work	1,169,209,493	5.49	2.98	1,324,788,980	3.89	1.89	1,483,048,009	5.62	1.61
Utilities	2,378,507,803	3.27	1.52	2,488,125,213	2.60	1.08	2,567,006,924	3.75	.68
Other variable expenses ⁴	4,021,794,213	7.74	.26	4,195,334,167	3.51	.50	4,112,391,138	3.67	-.39
Fixed expenses	15,230,167,136	2.26	-.59	15,169,922,461	2.07	-.13	14,946,179,215	2.22	-.49
Real estate and property taxes	1,776,923,823	2.55	-.42	1,737,528,087	2.38	-.64	1,747,686,144	3.00	.15
Interest on real estate debt	7,098,660,846	3.04	-1.79	6,716,545,277	2.59	-1.38	6,590,652,830	2.81	-.50
Insurance premiums	1,797,392,550	2.83	3.92	1,871,330,625	2.22	1.13	2,066,400,850	2.22	3.15
Rent and lease payments	4,557,189,917	3.14	-.08	4,844,518,472	3.39	1.32	4,541,439,391	3.37	-1.35
Equals: Net cash farm income	21,636,884,329	4.01	2.08	21,328,862,341	4.30	-.24	24,798,141,312	5.04	2.24
Less:									
Depreciation	8,770,120,999	2.57	.06	8,019,088,788	2.17	-2.64	8,789,260,017	2.52	2.73
Labor, noncash benefits	450,709,325	4.96	-1.08	473,170,716	6.45	.59	414,637,868	5.94	-1.49
Plus:									
Value of inventory change	4,957,733,248	10.53	.66	3,862,282,864	12.17	-1.56	5,583,991,629	14.26	1.86
Nonmoney income ⁵	1,500,923,800	2.10	3.46	1,602,171,006	2.22	2.13	1,760,548,311	3.87	2.06
Equals: Net farm income	18,874,711,054	5.33	2.40	18,301,056,707	5.34	-.41	22,938,783,367	5.93	2.77

Continued --

Appendix table 6--Farm business income statement for commercial farms, 1987-89 -- continued

Item	1987			1988			1989		
	Mean per reporting farm	C.V. ¹	T statistic (1987-89)	Mean per reporting farm	C.V.	T statistic (1987-88)	Mean per reporting farm	C.V.	T statistic (1988-89)
	Dollars	----- Percent -----	----- Percent -----	Dollars	----- Percent -----	----- Percent -----	Dollars	----- Percent -----	----- Percent -----
Gross cash income	170,751	2.32	4.34	176,916	1.97	1.17	197,210	2.35	3.50
Livestock sales	114,695	3.19	2.85	124,145	2.86	1.85	131,030	3.37	1.22
Crop sales (including net CCC loans)	82,908	3.83	6.09	88,802	3.22	1.38	113,897	3.49	5.12
Government payments	25,679	1.99	-14.82	20,991	1.85	-7.30	16,297	2.29	-8.70
Other farm-related income ²	13,076	9.99	1.57	12,712	10.14	-2.0	16,853	12.02	1.73
Less:									
Cash expenses	131,372	2.62	3.63	138,608	2.07	1.62	149,462	2.41	2.36
Variable expenses	104,057	2.95	3.79	111,553	2.33	1.86	121,133	2.73	2.28
Livestock purchases	33,641	6.62	1.70	41,103	7.34	1.99	41,689	10.03	.11
Feed	29,060	5.86	1.64	30,872	3.72	.88	32,422	3.50	.96
Veterinary services and supplies	3,007	4.78	2.75	2,924	3.23	-4.8	3,503	3.12	4.01
Other livestock-related expenses ³	4,424	10.29	.23	6,027	13.74	1.70	4,615	15.28	-1.30
Seed and plants	5,921	4.36	2.90	6,222	4.66	.77	6,899	3.15	1.87
Fertilizer and chemicals	15,829	2.24	6.68	17,020	2.23	2.29	19,610	2.25	4.46
Labor	22,424	5.49	1.32	23,172	4.64	.46	24,724	4.99	.95
Fuels and oils	6,377	2.10	1.94	6,363	1.65	-.09	6,743	1.96	2.25
Repairs and maintenance	9,143	2.13	5.21	9,385	1.86	.93	10,670	2.06	4.58
Machine-hire and custom work	4,321	5.34	2.14	4,319	3.70	-.01	5,094	5.45	2.42
Utilities	4,430	3.12	2.57	4,572	2.36	.81	5,015	3.60	2.10
Other variable expenses ⁴	7,250	7.72	.97	7,510	3.46	.42	7,856	3.61	.90
Fixed expenses	27,441	2.13	1.24	27,129	1.84	-.40	28,447	1.98	1.75
Real estate and property taxes	3,555	2.26	1.33	3,431	2.15	-1.13	3,727	2.73	2.35
Interest on real estate debt	16,111	2.82	-.35	14,922	2.31	-2.08	15,900	2.46	1.87
Insurance premiums	3,360	2.55	5.62	3,449	2.03	.80	4,025	2.03	5.35
Rent and lease payments	14,026	2.87	-.28	13,893	3.14	-.22	13,862	3.13	-.05
Equals: Net cash farm income	38,812	3.86	2.93	38,115	4.19	-.32	47,009	5.02	3.12
Less:									
Depreciation	17,516	2.34	.38	16,054	1.86	-2.89	17,730	2.23	3.38
Labor, noncash benefits	2,594	4.66	1.78	3,431	5.91	3.55	2,958	5.56	-1.81
Plus:									
Value of inventory change	12,352	10.50	.78	9,744	12.04	-1.49	14,235	14.22	1.92
Nonmoney income ⁵	3,263	1.17	6.19	3,434	1.44	2.72	4,149	3.33	4.88
Equals: Net farm income	33,857	5.22	3.09	32,703	5.21	-.47	43,485	5.90	3.50

¹C.V. denotes coefficient of variation. ²Includes income from machine-hire, custom work, livestock grazing, land rental, contract production fees, outdoor recreation, and any other farm-related source. ³Includes livestock leasing, custom feed processing, bedding, grazing. ⁴Includes supplies, registration fees, transportation, storage, and general business expenses. ⁵Defined as the value of home consumption and imputed rental value of farm dwellings owned by the farm operation.

Source: Farm Costs and Returns Survey, USDA.

Appendix table 7--Farm balance sheet characteristics for commercial farms, 1987-89

Item	1987			1988			1989		
	Total		C.V. ¹ (1987-89)	Total		C.V. (1987-88)	Total		C.V. (1988-89)
	Dollars	Percent		Dollars	Percent		Dollars	Percent	
Farm assets	343,148,402,662	2.18	3.05	364,201,548,505	2.91	1.62	382,711,096,474	2.77	1.24
Current assets	76,835,191,868	3.04	-7.07	55,831,448,100	3.48	-6.92	56,897,460,748	2.78	.43
Livestock inventory	11,722,990,381	5.90	3.85	11,812,845,789	3.57	.11	15,699,138,858	4.88	4.44
Crop inventory	17,025,619,975	4.47	.84	15,243,173,318	8.39	-1.20	17,913,580,846	4.07	1.81
Purchased inputs	2,653,817,148	14.43	-1.25	2,902,126,943	7.17	.57	2,156,822,019	5.02	-3.18
Prepaid insurance	449,406,045	2.83	3.92	467,889,298	2.22	1.13	516,653,500	2.22	3.15
Other assets ²	44,983,358,318	4.02	-11.91	25,405,412,752	3.95	-9.47	20,611,265,524	4.67	-3.45
Noncurrent assets	266,313,210,794	2.28	5.14	308,370,100,405	3.05	3.76	325,813,635,726	3.02	1.28
Investments in cooperatives	n.a.	n.a.	n.a.	1,892,226,758	4.87	n.a.	1,528,836,313	6.91	-2.59
Land and buildings ³	193,906,148,862	2.67	5.43	231,054,431,450	3.39	3.96	250,591,327,433	3.62	1.63
Operator dwelling	21,401,248,947	2.46	1.07	22,759,402,522	2.63	1.70	22,363,146,009	3.24	-.42
Farm equipment	47,617,204,537	2.65	2.07	50,635,318,859	6.02	.91	51,133,417,395	2.23	.15
Breeding animals	23,013,015,350	3.67	-.39	24,788,123,338	2.96	1.59	22,560,054,585	3.51	-2.06
Farm operation liabilities	79,543,238,063	2.91	-4.67	69,883,644,775	2.55	-3.31	66,043,208,308	2.62	-1.55
Current liabilities	20,678,571,770	3.03	.18	20,395,569,045	2.80	-.33	20,837,977,087	2.89	.53
Notes payable within 1 year	9,997,934,810	4.22	-2.87	7,630,860,080	5.56	-3.96	8,247,385,233	5.34	1.01
Current portion of term debt	5,886,467,165	3.02	6.77	8,048,665,449	3.14	7.00	8,061,735,199	3.32	.04
Accrued interest	2,065,879,301	2.97	-2.80	1,955,031,658	2.61	-1.39	1,845,430,483	2.68	-1.54
Accounts payable	2,728,290,493	2.21	-.51	2,761,011,859	2.20	.38	2,683,426,172	2.40	-.88
Noncurrent liabilities	58,864,666,293	3.02	-6.21	49,488,075,730	2.81	-4.15	45,205,231,221	2.86	-2.26
Non-real estate	n.a.	n.a.	n.a.	16,362,499,050	4.11	n.a.	17,865,108,047	4.18	1.49
Real estate	n.a.	n.a.	n.a.	33,125,576,680	3.29	n.a.	27,340,123,174	3.41	-4.04
By lender:									
Farmers Home Administration	11,275,508,190	5.14	-3.08	10,328,009,166	5.13	-1.21	9,006,645,320	5.06	-1.89
FCS	19,431,743,595	4.47	-2.36	18,397,252,137	4.55	-.86	16,648,510,150	4.81	-1.51
Commercial bank	22,275,802,438	5.05	1.01	23,289,735,060	3.63	.72	23,757,550,555	3.95	.37
Other	15,879,546,880	4.86	-4.05	13,152,581,771	4.43	-2.82	12,101,617,361	4.33	-1.34
CCC crop loans ⁴	5,361,541,325	4.82	-11.89	3,519,616,925	7.72	-4.91	1,885,532,719	7.25	-5.37
Net worth	263,605,164,599	2.50	4.44	294,317,903,730	3.41	2.56	316,667,888,166	3.15	1.58

Continued --

Appendix table 7--Farm balance sheet characteristics for commercial farms, 1987-89 -- continued

Item	1987			1988			1989		
	Mean per reporting farm	C.V. ¹	T statistic (1987-89)	Mean per reporting farm	C.V.	T statistic (1987-88)	Mean per reporting farm	C.V.	T statistic (1988-89)
	Dollars	----	Percent	Dollars	----	Percent	Dollars	----	Percent
Farm assets	616,453	1.82	5.13	650,940	2.72	1.65	725,613	2.49	2.95
Current assets	138,468	2.73	-6.36	100,085	3.34	-7.60	108,371	2.62	1.89
Livestock inventory	31,288	5.79	8.72	31,452	3.24	.08	61,373	4.78	9.63
Crop inventory	42,333	4.33	1.17	43,129	8.33	.20	45,314	3.90	.55
Purchased inputs	7,502	14.42	-.37	8,750	7.13	1.00	7,079	4.89	-2.34
Prepaid insurance	840	2.55	5.62	862	2.03	.80	1,006	2.03	5.35
Other assets ²	91,439	3.64	-10.59	55,417	3.77	-9.16	49,171	4.47	-2.06
Noncurrent assets	479,123	1.97	7.31	554,210	2.86	4.07	621,956	2.75	2.90
Investments in cooperatives	n.a.	n.a.	n.a.	12,045	4.76	n.a.	9,762	6.61	-2.64
Land and buildings ³	398,102	2.33	6.33	458,850	3.16	3.53	523,646	3.35	2.85
Operator dwelling	52,606	1.63	4.09	54,427	1.95	1.33	59,368	2.38	2.80
Farm equipment	88,423	2.44	4.15	93,483	5.96	.85	100,565	1.97	1.20
Breeding animals	61,421	3.48	4.62	65,999	2.63	1.66	76,532	3.24	3.48
Farm operation liabilities	144,454	2.79	-3.57	125,868	2.31	-3.74	126,406	2.41	.13
Current liabilities	37,553	2.97	1.51	36,735	2.57	-.56	39,884	2.68	2.21
Notes payable within 1 year	31,232	4.08	8.94	49,841	5.25	6.40	59,282	4.84	2.43
Current portion of term debt	14,327	2.73	10.62	21,467	2.69	10.24	22,635	2.99	1.31
Accrued interest	4,823	2.71	-.79	4,619	2.29	-1.21	4,688	2.32	.45
Accounts payable	5,068	2.05	1.20	5,062	2.00	-.04	5,253	2.17	1.26
Noncurrent liabilities	143,265	2.73	-3.26	131,993	2.39	-2.24	126,923	2.48	-1.14
Non-real estate	n.a.	n.a.	n.a.	65,097	3.47	n.a.	71,174	3.62	1.77
Real estate	n.a.	n.a.	n.a.	140,962	2.63	n.a.	132,385	2.85	-1.62
By lender:									
Farmers Home Administration	102,865	3.77	-2.32	103,595	3.90	.13	91,008	3.67	-2.40
FCS	120,643	3.93	.15	117,424	3.95	-.49	121,700	4.08	.63
Commercial bank	82,825	4.86	1.49	83,485	3.20	.14	90,316	3.36	1.69
Other	67,605	4.33	-1.74	63,691	3.87	-1.02	61,012	3.93	-.78
CCC crop loans ⁴	37,297	4.27	-.59	50,135	6.52	3.53	35,636	6.48	-3.62
Net worth	473,054	2.14	6.32	525,901	3.25	2.66	600,305	2.90	3.05

n.a. = Not available.

¹C.V. denotes coefficient of variation. ²Includes accounts receivable, certificates of deposit, checking and savings balances, and any other financial assets of the farm business.³The value of the operator's dwelling and any associated liabilities were included if the dwelling was located on the farm. ⁴Commodity Credit Corporation crop loans were excluded from both assets and liabilities.

Source: Farm Costs and Returns Survey, USDA.

Appendix table 8--Commercial farm expenditures for capital investment and farm labor, 1987-89

Item	1987			1988			1989		
	Total		statistic (1987-89)	Total		statistic (1987-88)	Total		statistic (1988-89)
	Dollars	C.V. ¹		Dollars	C.V.		Dollars	C.V.	
			Percent ----			Percent ----			Percent ----
Capital investments and improvements:									
New investments:									
Machinery and equipment	6,168,999,014	3.30	3.81	6,286,080,138	2.79	.44	7,289,264,787	2.90	3.65
Autos and trucks	1,229,909,133	3.97	2.13	1,361,945,098	4.31	1.73	1,414,604,028	5.06	.57
Tractors	1,382,325,086	6.13	4.57	1,559,909,840	5.46	1.48	1,947,956,896	4.63	3.13
Other farm machinery	2,771,487,717	5.42	2.17	2,667,897,369	3.73	-.57	3,194,528,320	3.90	3.30
Other capital equipment	785,277,078	5.43	-.87	696,327,831	5.10	-1.60	732,175,544	5.96	.64
Construction and improvements	1,671,744,678	6.86	-.06	1,757,877,109	8.13	.47	1,662,145,127	6.39	-.54
Building construction	1,200,106,408	8.82	-.60	1,153,680,980	11.27	-.28	1,117,307,048	7.91	-.23
Other construction	471,638,271	6.79	1.23	604,196,129	8.49	2.19	544,838,079	9.26	-.83
Total new capital investments	7,840,743,692	3.23	3.09	8,043,957,248	3.08	.57	8,951,409,914	2.85	2.55
Maintenance and repair:									
Motor vehicles	4,221,799,809	2.49	3.12	4,334,939,378	2.04	.82	4,696,247,484	2.34	2.56
Farm buildings	583,773,380	4.98	-.42	556,785,046	4.71	-.69	567,026,048	4.91	.27
Other maintenance and repair	260,179,310	8.12	1.51	267,037,735	7.74	.23	306,083,782	7.14	1.30
Total maintenance and repair	5,065,752,499	2.44	2.89	5,158,762,159	2.04	.57	5,569,357,314	2.22	2.53
Farm labor:									
Cash wages	7,365,194,240	5.25	1.44	7,765,125,994	4.42	.77	8,173,118,856	5.00	.76
Operator and family	1,477,896,906	5.29	.67	1,449,440,860	5.97	-.24	1,557,341,294	5.71	.87
Employees	5,887,297,333	6.06	1.44	6,315,685,134	4.83	.91	6,615,777,562	5.39	.64
Contract labor	973,707,038	12.71	.32	832,351,804	16.13	-.77	1,028,365,528	11.51	1.10
Fringe benefits:									
Cash	985,147,516	6.63	4.26	1,043,129,211	6.02	.64	1,422,574,149	5.56	3.76
Noncash	452,223,888	4.95	-.85	410,836,975	7.26	-1.11	423,642,137	5.97	.33

Continued --

Appendix table 8--Commercial farm expenditures for capital investment and farm labor, 1987-89 -- continued

Item	1987			1988			1989		
	Mean per reporting farm	C.V. ¹	statistic (1987-89)	Mean per reporting farm	C.V.	statistic (1987-88)	Mean per reporting farm	C.V.	statistic (1988-89)
	Dollars	Percent	----	Dollars	Percent	----	Dollars	Percent	----
Capital investments and improvements:									
New investments:									
Machinery and equipment	13,467	3.05	6.23	14,126	2.31	1.26	17,308	2.66	5.64
Autos and trucks	7,317	2.79	5.51	8,281	2.74	3.16	9,647	3.84	3.15
Tractors	14,273	4.76	4.49	16,221	3.63	2.17	18,516	3.56	2.60
Other farm machinery	9,094	5.21	4.08	9,305	3.25	.38	11,666	3.56	4.59
Other capital equipment	2,762	5.24	.22	2,523	4.72	-1.28	2,809	5.85	1.41
Construction and improvements	9,113	6.44	2.48	11,538	7.49	2.32	11,339	5.97	-1.18
Building construction	14,966	8.07	.58	16,825	10.01	.90	15,968	7.66	-.41
Other construction	3,578	6.08	3.96	5,688	8.09	4.15	5,673	8.49	-.02
Total new capital investments	16,371	2.96	5.83	17,254	2.63	1.33	20,567	2.59	4.73
Maintenance and repair:									
Motor vehicles	7,618	2.23	5.46	7,890	1.87	1.21	9,048	2.21	4.66
Farm buildings	2,401	4.44	2.06	2,576	4.19	1.15	2,743	4.61	1.00
Other maintenance and repair	1,257	7.85	2.02	1,013	7.66	-1.94	1,548	6.78	4.10
Total maintenance and repair	9,022	2.15	5.45	9,281	1.86	.99	10,617	2.06	4.79
Farm labor:									
Cash wages	19,741	5.15	1.60	21,780	4.37	1.46	22,117	4.91	.23
Operator and family	11,020	4.55	2.41	12,616	5.35	1.90	13,071	5.27	.47
Employees	17,939	5.98	1.17	19,713	4.81	1.24	19,695	5.32	-.01
Contract labor	12,152	12.23	.59	11,310	16.14	-.36	13,421	11.50	.88
Fringe benefits:									
Cash	4,916	6.54	3.61	5,767	5.97	1.81	6,653	5.40	1.78
Noncash	2,585	4.66	1.94	3,796	6.65	4.33	2,985	5.60	-2.68

¹C.V. denotes coefficient of variation.

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